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SERVICE MANUAL

MODELS : T571C/T571AH

T571C
T571AH
DVD VIDEO PLAYER

CONTENTS

SECTION 1 . . . .SUMMARY

SECTION 2 . . . .CABINET & MAIN CHASSIS

SECTION 3 . . . .ELECTRICAL

SECTION 4 . . . .MECHANISM

SECTION 5 . . . .REPLACEMENT PARTS LIST

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SECTION 1

SUMMARY

CONTENTS

PRODUCT SAFETY SERVICING GUIDELINES FOR VIDEO PRODUCTS 1-3
SERVICING PRECAUTIONS 1-4
- General Servicing Precautions
- Insulation Checking Prodedure
- Electrostatically Sensitive Devices

SPECIFICATIONS 1-5

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IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, the products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

• Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (⩛) parts are critical for safety.
   Replace only with specified part numbers.
   Note : Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use Specified internal wiring. Note especially:
   1) Double insulated wires
   2) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistor

5. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

6. Check that replaced wires do not contact sharp edged or pointed parts.

7. 1) When a power cord has been replaced, check that A mark is made on the cord, under strain, near the aperture, and the flexible cord is subjected 100 times to a pull of 40N for a duration of 1 second each.
   2) During the test, the cord shall not be displaced by more than 2mm

8. Also check areas surrounding repaired locations.

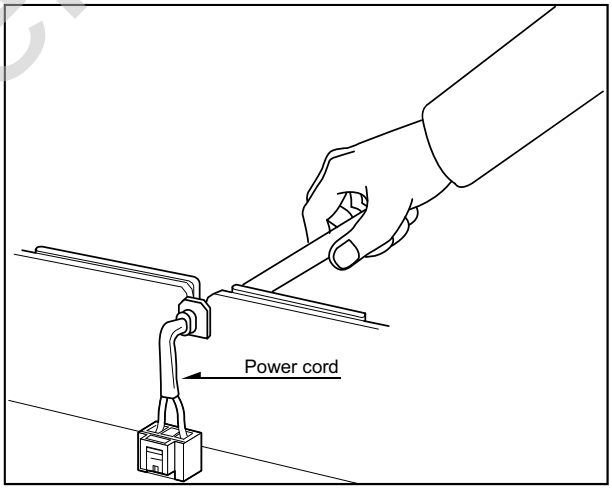

Fig. 1

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SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

• Insulation resistance test

confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) See table below.

• Dielectric strength test

Confirm specified dielectric strength or greater between power cord prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) See table below.

• Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

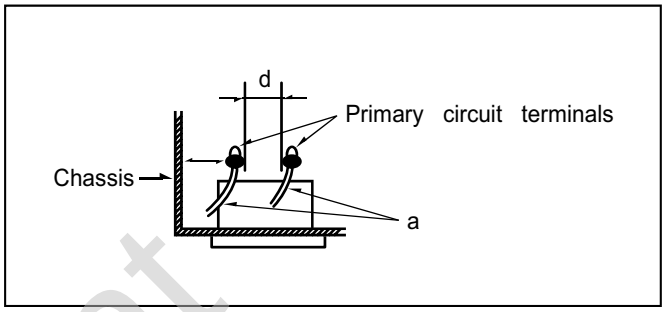

Fig. 2

Table 1 : Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d)
200 to 240 V *100 to 130 V	Europe Australia	F 10 MΩ/500 V DC	4kV 1 minute	F 6mm(d) F 8mm(d) (a Power cord)

* Class II model only.

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

• Leakage Current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

Measuring Method: (Power ON)
Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

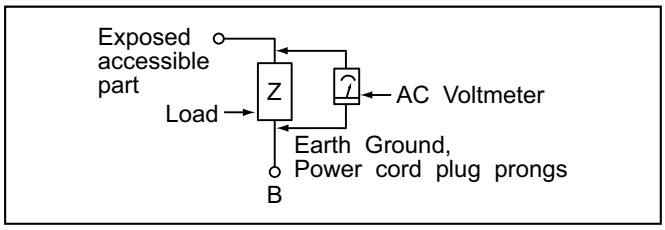

Fig. 3

Table 2:Leakage current ratings for selected areas.

AC Line Voltage	Region	Load Z	Leakage Current(i)	Earth Ground (B) to :
200 to 240 V	Europe	2kΩ	i E 0.7m A peak i E 2m A DC	Antenna earth terminals
100 to 130 V	Australia	50kΩ	i E 0.7m A peak i E 2m A DC	Other terminals

Note. This table is for IEC member only. Be sure to confirm the precise values for your particular country and locality.

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SPECIFICATIONS

DVD VIDEO PLAYER

Power supply		AC 120 V, 60 Hz (T571AH) AC 110~240 V, 50/60 Hz (T571C)
Power consumtion		16 W
Mass		5.7 kg(12.6 lbs)
External dimensions		440 x 118 x 423 mm (W x H x D)
Signal system		NTSC (T571AH) PAL (T571C)
Laser	(DVD)	Semiconductor laser, wavelength 650 nm
	(CD)	780 nm
Frequency range (audio)		DVD : fs = 96 kHz 4 Hz - 44 kHz fs = 48 kHz 4 Hz - 22 kHz CD: 4 Hz - 20 kHz
Signal-to-noise ratio (audio)		More than 105dB (EIAJ)
Audio dynamic range (audio)		More than 100dB (EIAJ)
Harmonic distortion(audio)		0.003%
Wow and flutter		Below measurable level (less than +0.001%(W.PEAK)) (EIAJ)
Operations		Temperature : 5˚C(41˚F) to 35˚C(95˚F), Operation status : Horizontal

OUTPUTS

Video outputs	1.0V(p-p), 75Ω, negative sync., RCA jack x 1/ SCART(TO TV) (T571C ONLY)
S-video outputs	(Y)1.0V(p-p), 75Ω, negative sync.,Mini DIN 4-pin x 1 (C)0.286V(p-p), 75Ω
Component video output	(Y)1.0V(p-p), 75Ω,negative sync., RCA jack x 1 (Pb)/(Pr) 0.7V(p-p), 75Ω
Audio output(digital audio)	0.5V(p-p), 75Ω, RCA jack X 1/SCART(TO TV) (T571C ONLY)
Audio output(analog audio)	2.0Vrms (1kHz, 0dB), 330Ω, RCA jack (L, R) x 2/ SCART(TO TV) (T571C ONLY)

*Designs and specifications are subject to change without notice.

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SECTION 2

CABINET & MAIN CHASSIS

CONTENTS

1. DISASSEMBLY 2-2
   CABINET DISASSEMBLY 2-2
   CIRCUIT BOARD DISASSEMBLY 2-3
2. EXPLODED VIEWS 2-4
   1. Cabinet and Main Frame Section 2-4
   2. Packing Accessory Section 2-5

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DISASSEMBLY

CAUTION BEFORE STARTING SERVICING

Electronic parts are susceptible to static electricity and may easily and damaged, so do not forget to take a proper grounding treatment as required.

Many screws are used inside the unit. To prevent missing, dropping, etc. of the screws, always use a magnetized screw driver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

CABINET DISASSEMBLY

1. Top Case

1. Release 7 screws (A). (See Fig. 2-1)
2. Lift the top case with holding the back of it, and remove it in the direction of the arrow.

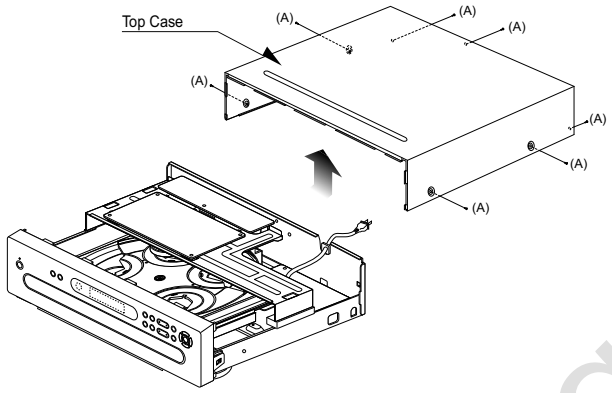

Fig. 2-1

2. Tray Door

1. Eject the disc tray.
2. Lift up the tray door in the direction of the arrow.

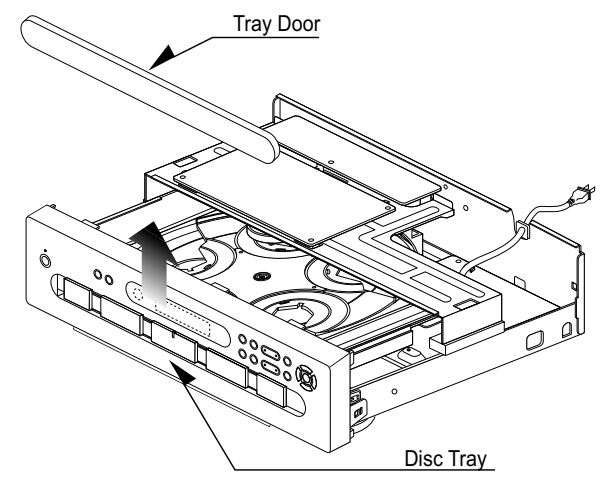

Fig. 2-2

3. Front Panel

1. Eject the disc tray. (See Fig. 2-2)
2. Remove the tray door. (See Fig. 2-2)
3. Pull the front panel toward you while pressing 5 stoppers to disengage, and remove the front panel. (See Fig. 2-3)

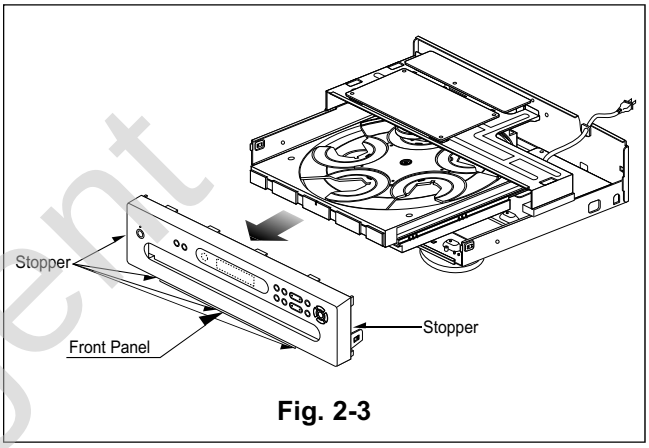

Fig. 2-3

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CIRCUIT BOARD DISASSEMBLY

Note: Before removing the main circuit board, be sure to shortcircuit the laserdiode output land. After replacing the main circuit board, open the land after inserting the flexible connector. (Refer to Mechanism Disassembly)

1. Disassemble Main circuit board, Jack circuit board, Power circuit board and MD Ass'y DPM1.

1. Remove the top case.(See Fig. 2-1)
2. Remove 10 screws (B).
3. Disassemble Main circuit board and Jack circuit board from Bracket Main.
4. Unscrew 3 screws(C) at Bracket Main.
5. Disassemble Bracket Main from Main chassis.
6. Unscrew 4 screws(D) at MD Ass'y DPM1.
7. Turn the portion the direction of arrow to move the Base Assembly Tray in front of you.
8. Release the other 3 screws(E).
9. Disassemble MD Ass'y DPM1 from Main chassis.
10. Unscrew 4 screws(F) at Power circuit.
11. Disassemble power circuit board from Main chassis.

2. Digitron and Key Circuit Board

1. Remove the front panel.(See Fig. 2-3)
2. Release 6 screws (G), and remove the digitron circuit board.

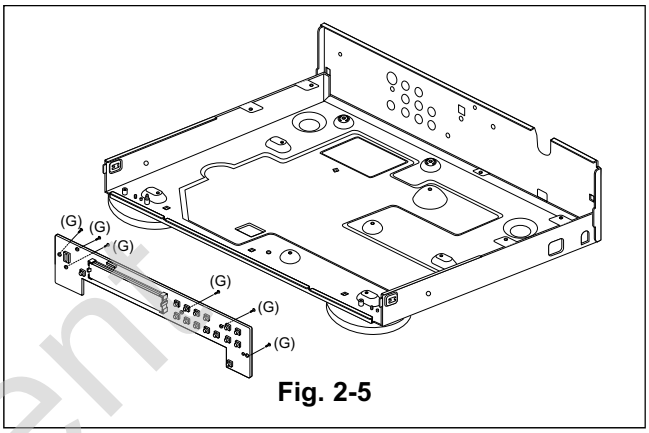

Fig. 2-5

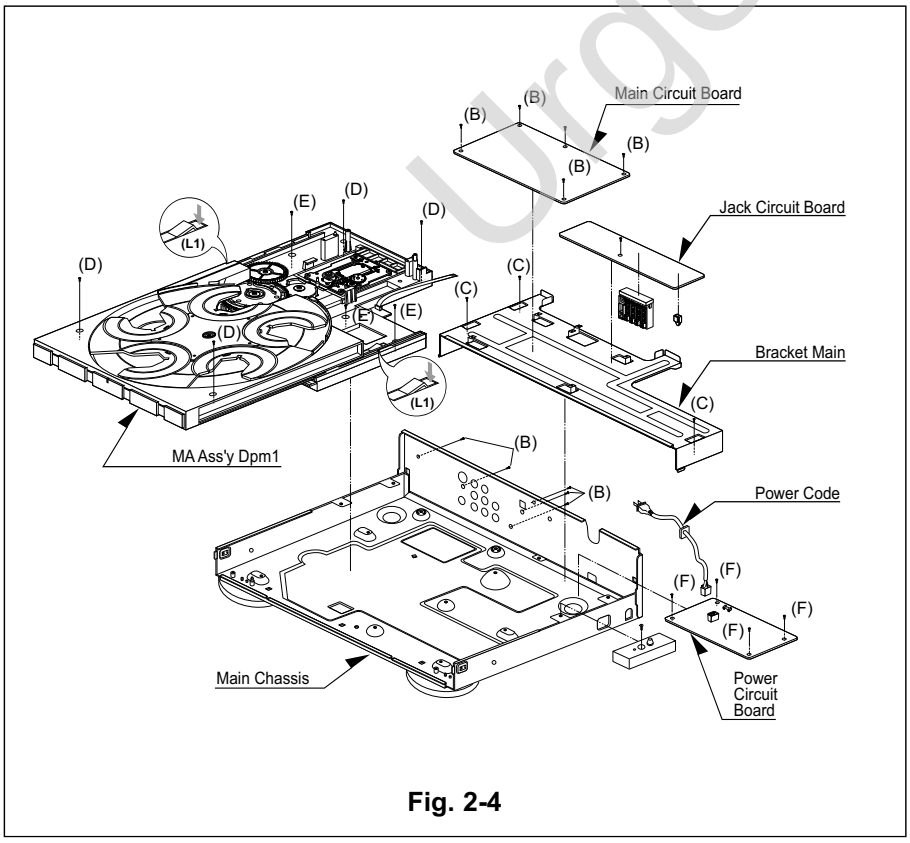

Fig. 2-4

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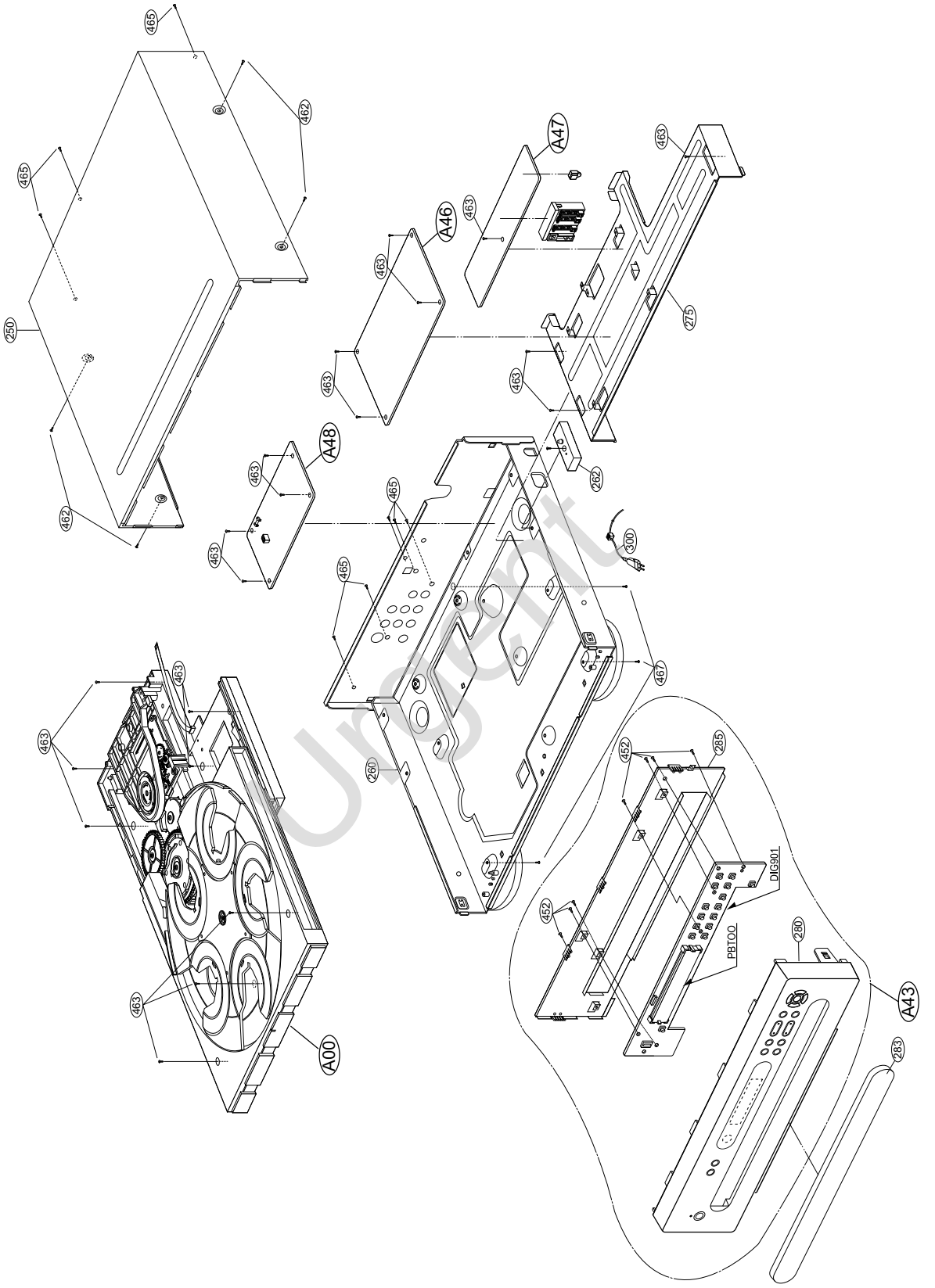
EXPLODED VIEWS

1. Cabinet and Main Frame Section



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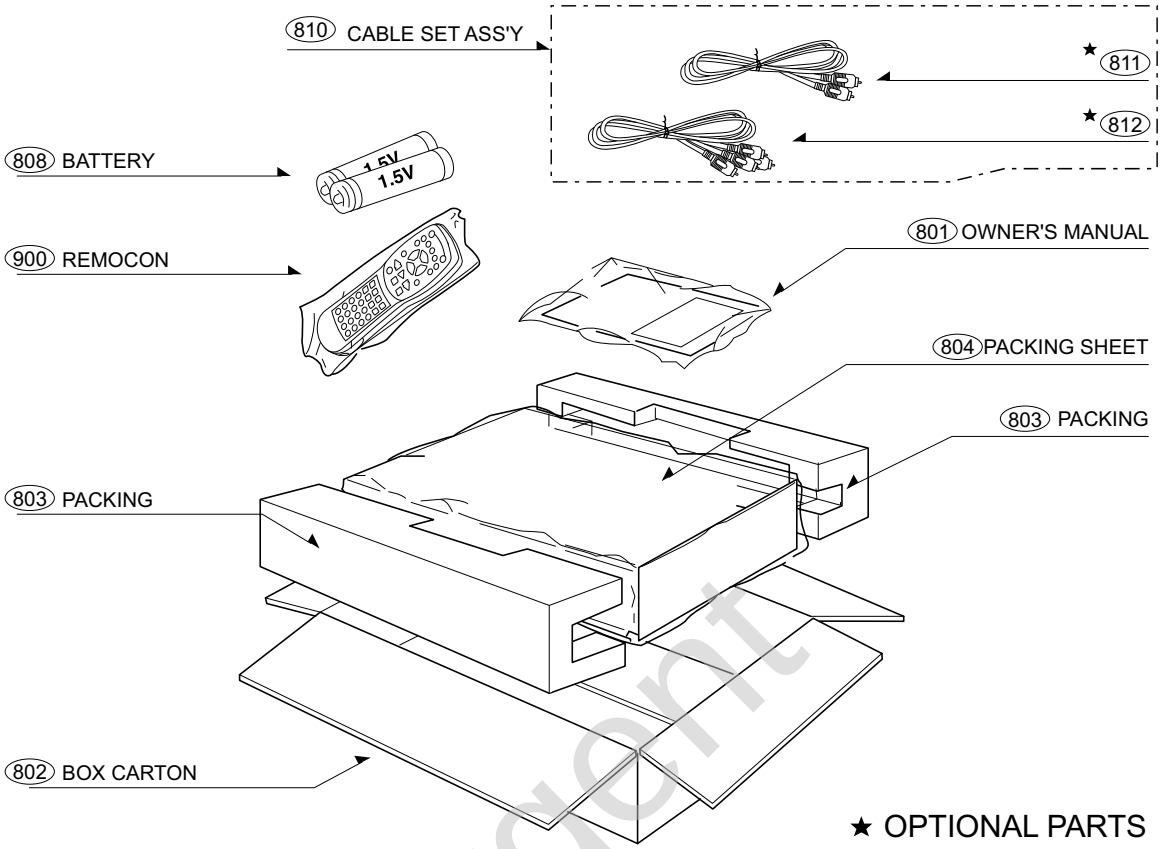
2.Packing Accessory Section



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SECTION 3
ELECTRICAL

CONTENTS

ELECTRICAL TROUBLESHOOTING GUIDE....3-2
1. Power(SMPS) Circuit....3-2
2. μ-com Circuit....3-3
3. MPEG Circuit....3-6
4. Front Circuit(Digitron & Key)....3-7
5. RF/Servo Circuit....3-8
BLOCK DIAGRAMS....3-12
1. Overall Block Diagram....3-12
2. Power (SMPS) Block Diagram....3-13
3. RF/CD DSP/DVD DSP/DVD servo Block Diagram....3-14
4. Audio Block Diagram....3-15
5. MPEG Block Diagram....3-16
CIRCUIT DIAGRAMS....3-17
1. Power (SMPS) Circuit Diagram....3-17
2. DVD DSP Circuit Diagram....3-19
3. Drive & RF Circuit Diagram....3-21
4. MPEG Circuit Diagram....3-23
• WAVEFORMS....3-25
5. Audio DM & 5.1CH Circuit Diagram....3-27
6. TIMER & Key Circuit Diagram....3-29
7. A/V Circuit Diagram....3-31
8. A/V Jack Circuit Diagram....3-33
9. SCART Circuit Diagram....3-35
• CIRCUIT VOLTAGE CHART....3-37
PRINTED CIRCUIT DIAGRAMS....3-41
1. MAIN P.C.BOARD....3-41
2. AV JACK P.C.BOARD....3-43
3. SMPS P.C.BOARD....3-44
4. FRONT P.C.BOARD....3-43

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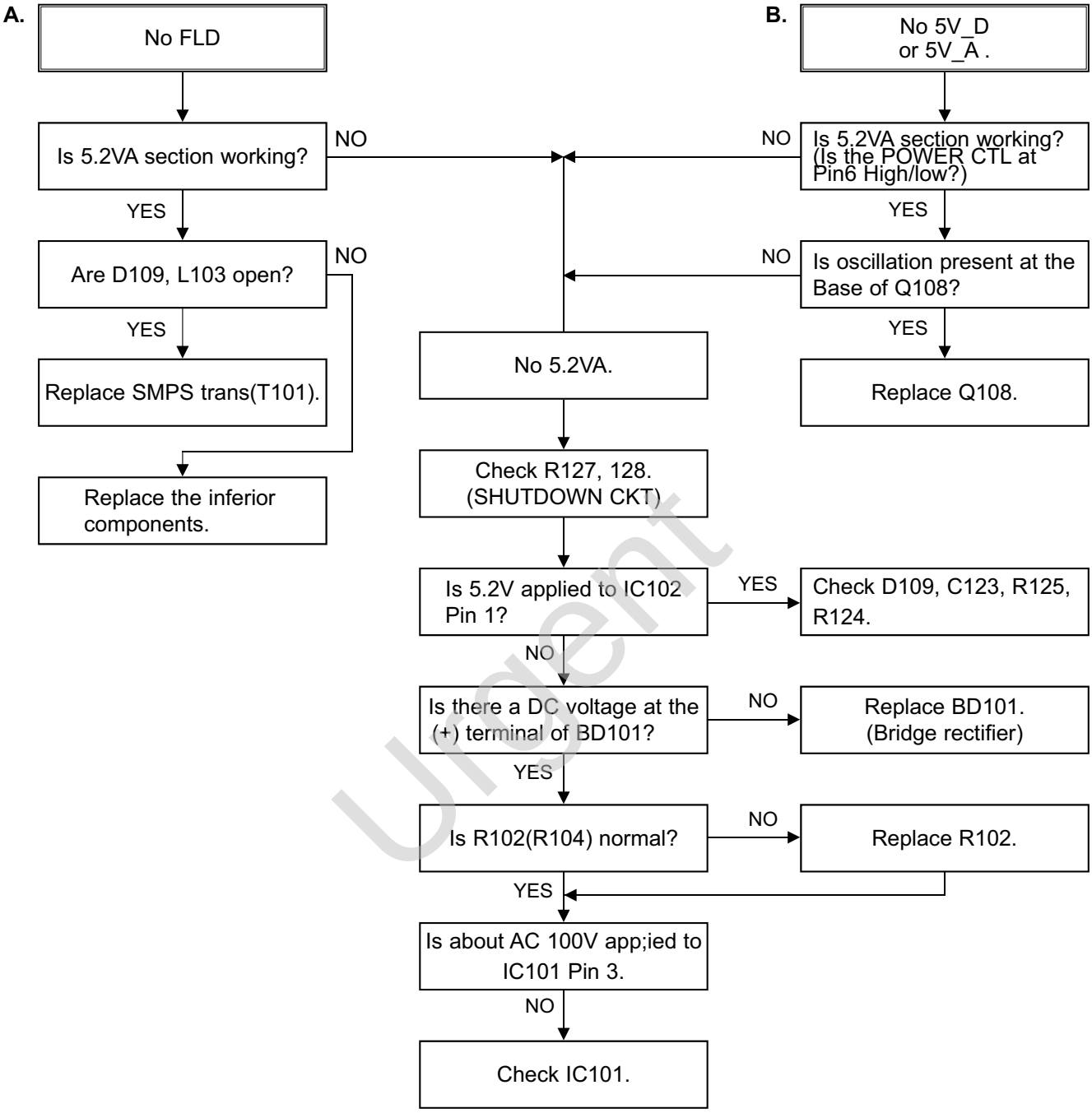
ELECTRICAL TROUBLESHOOTING GUIDE

1. Power(SMPS) Circuit



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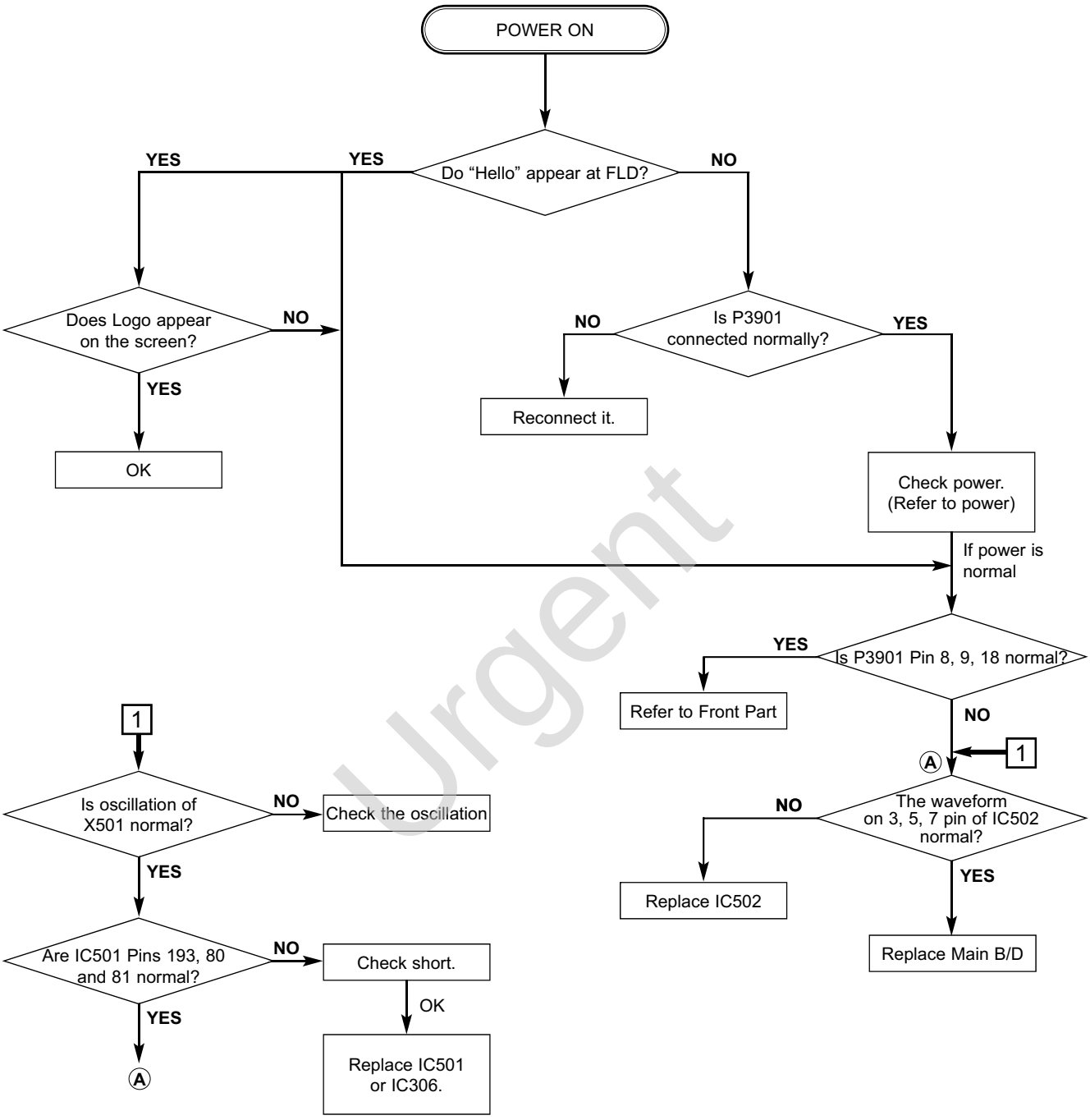
2. µ-COM Circuit

A. No Power



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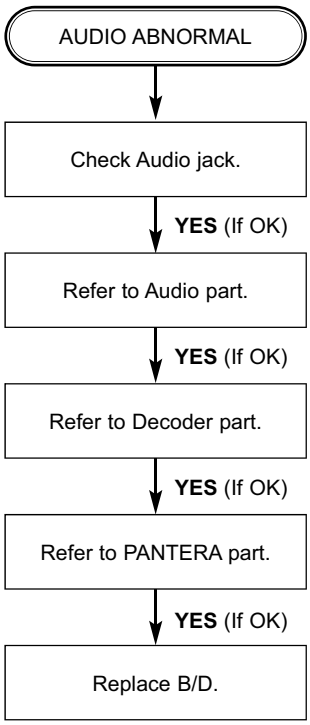
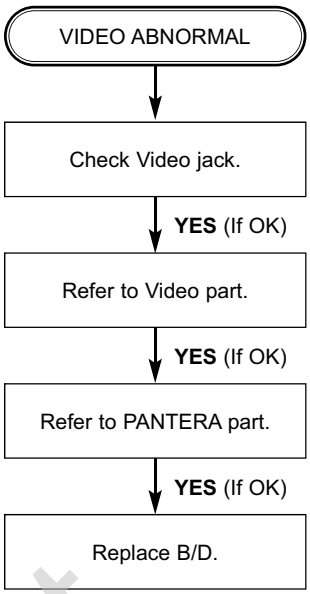
B. Audio abnormal



C. Video abnormal



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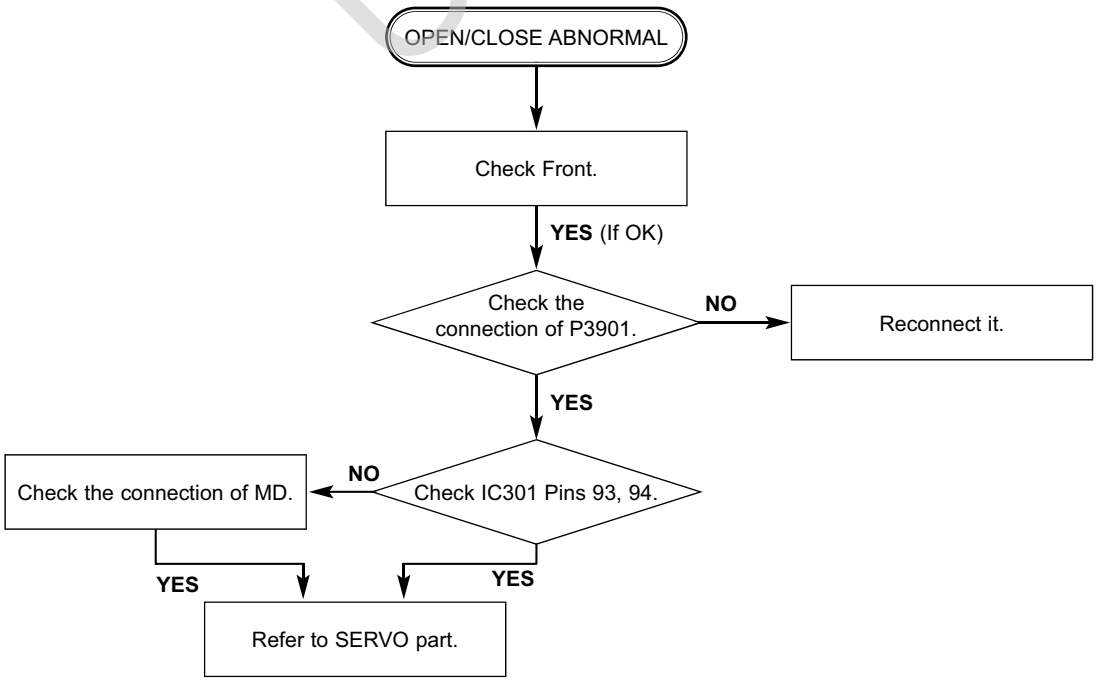
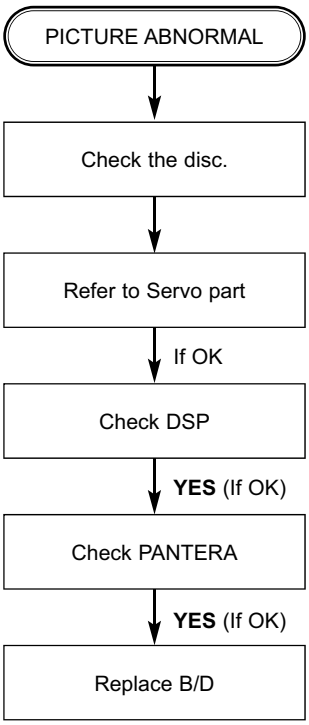
D. Open/Close abnormal



E. Picture abnormal



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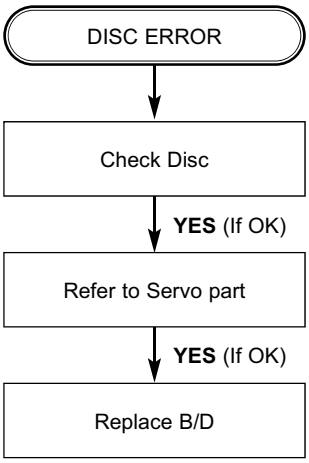
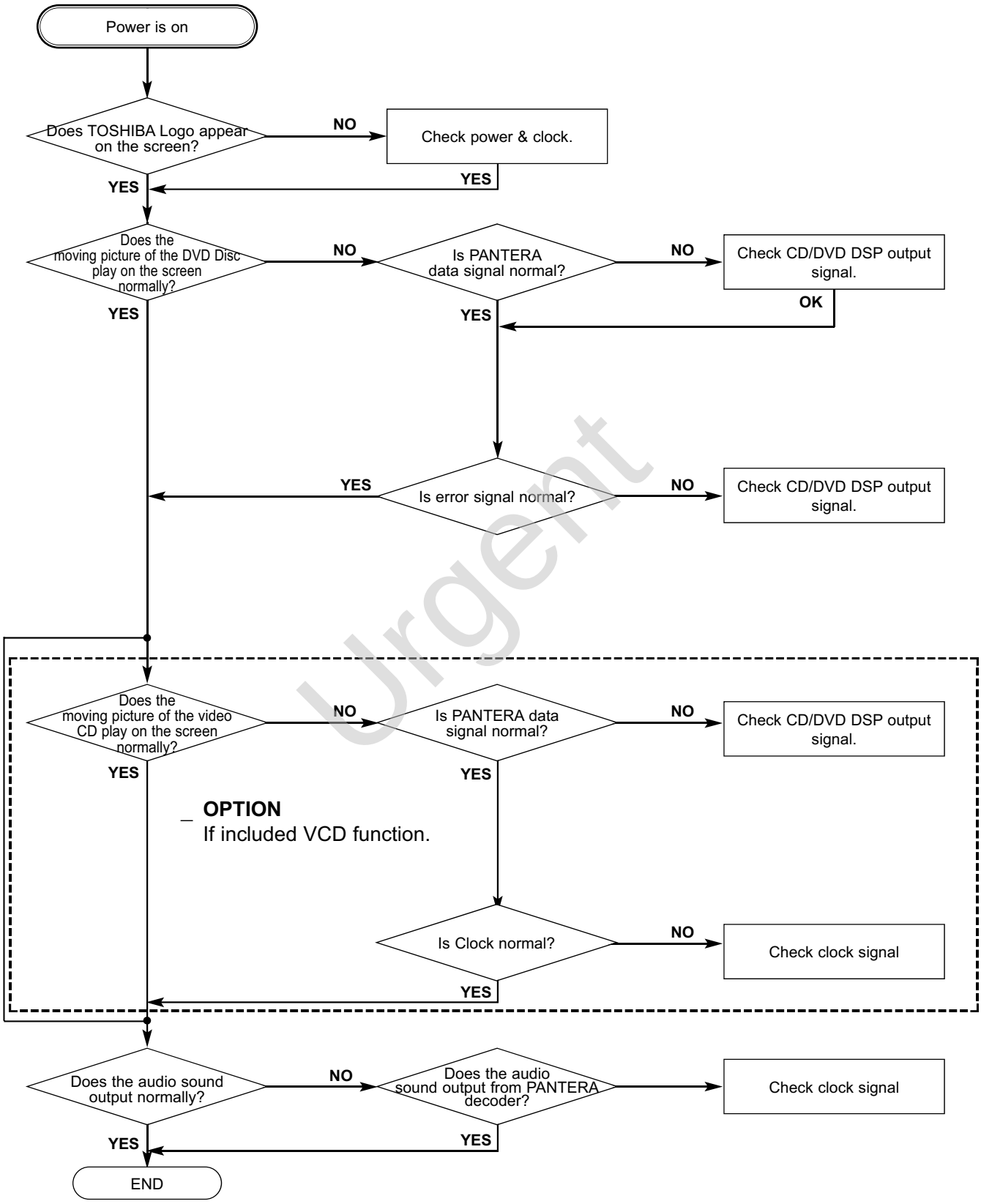
F. Disc Error



3. PANTERA Circuit



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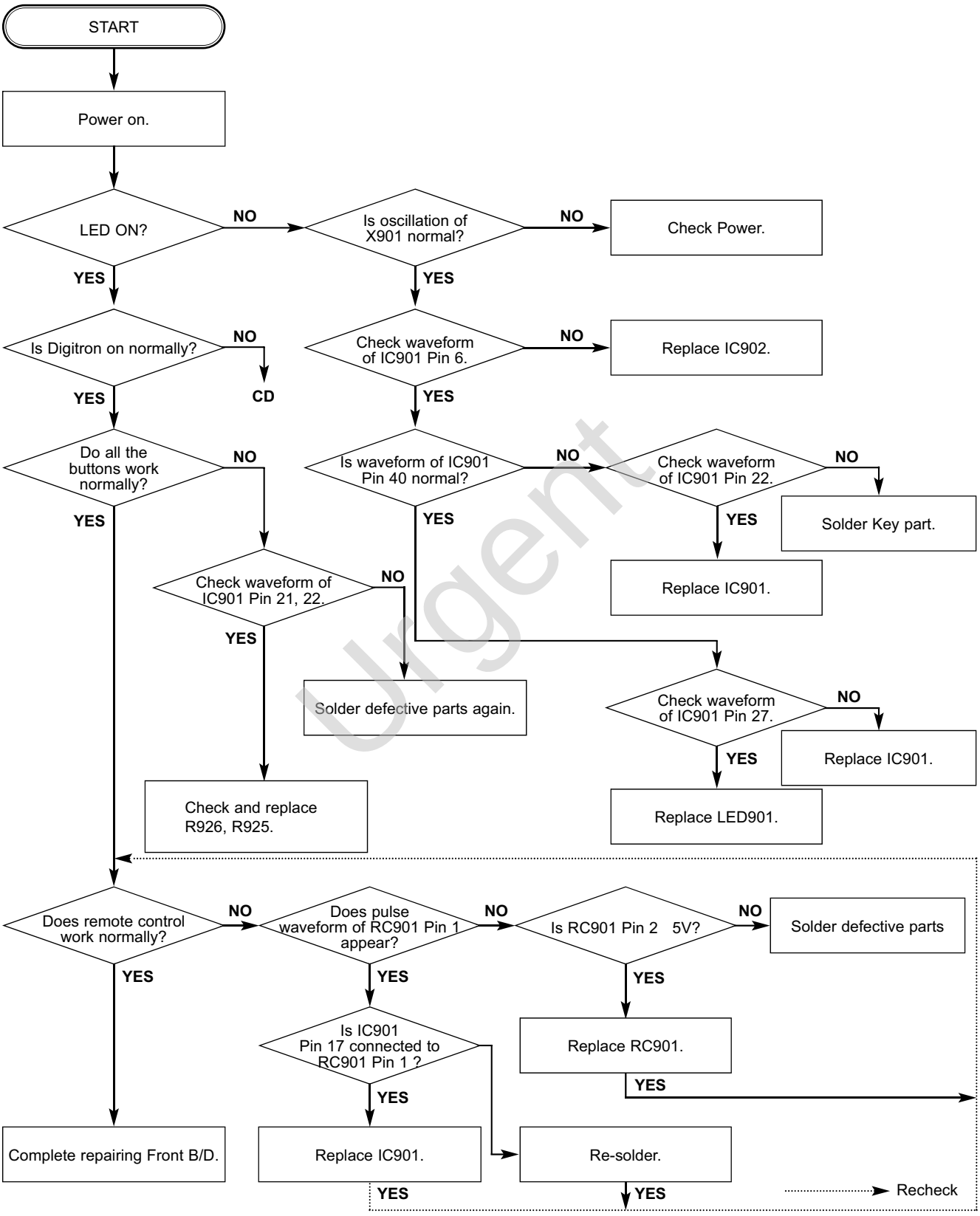
4. Front Circuit (Digitron & key)



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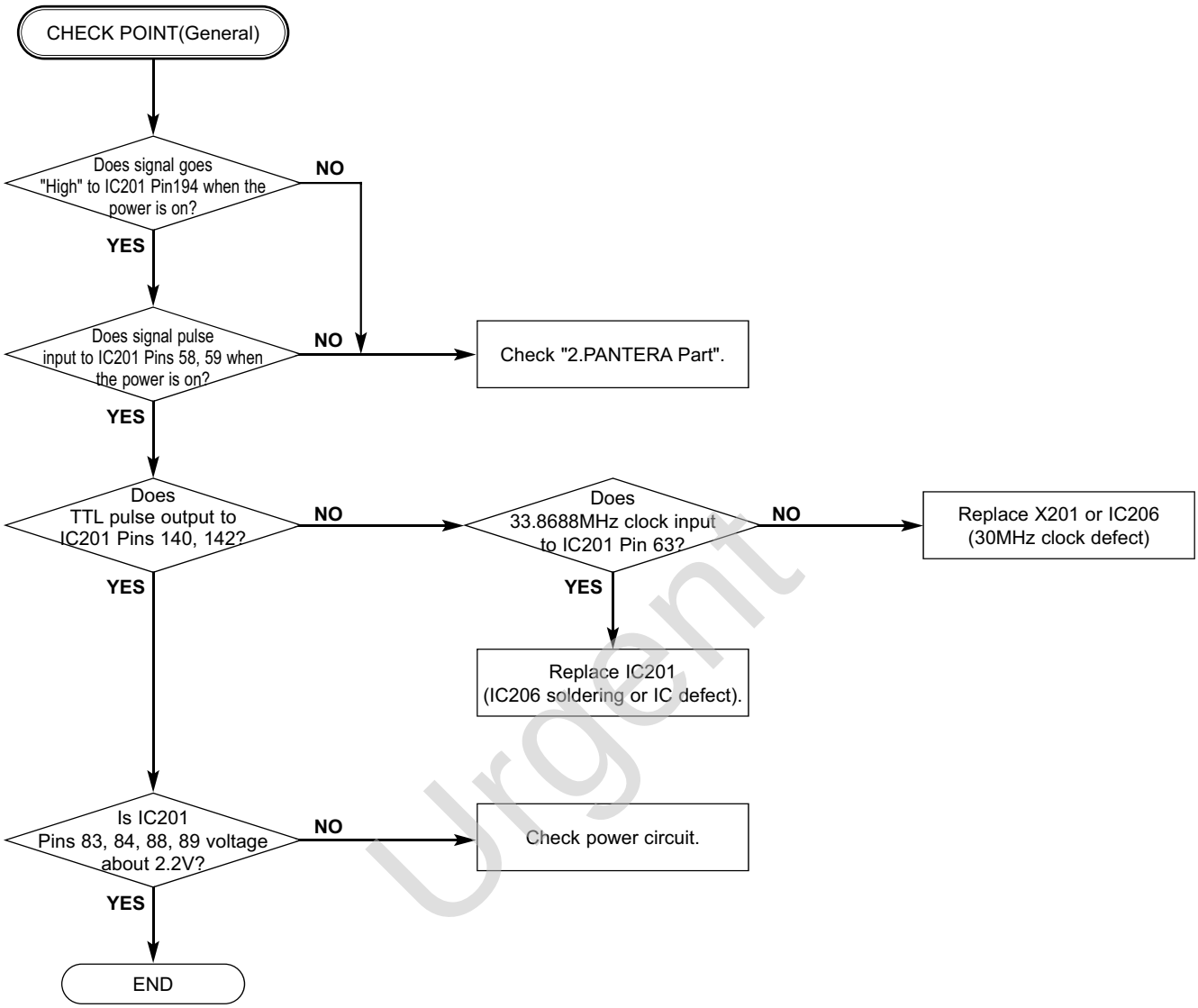
5. RF/Servo Circuit

A.



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B.

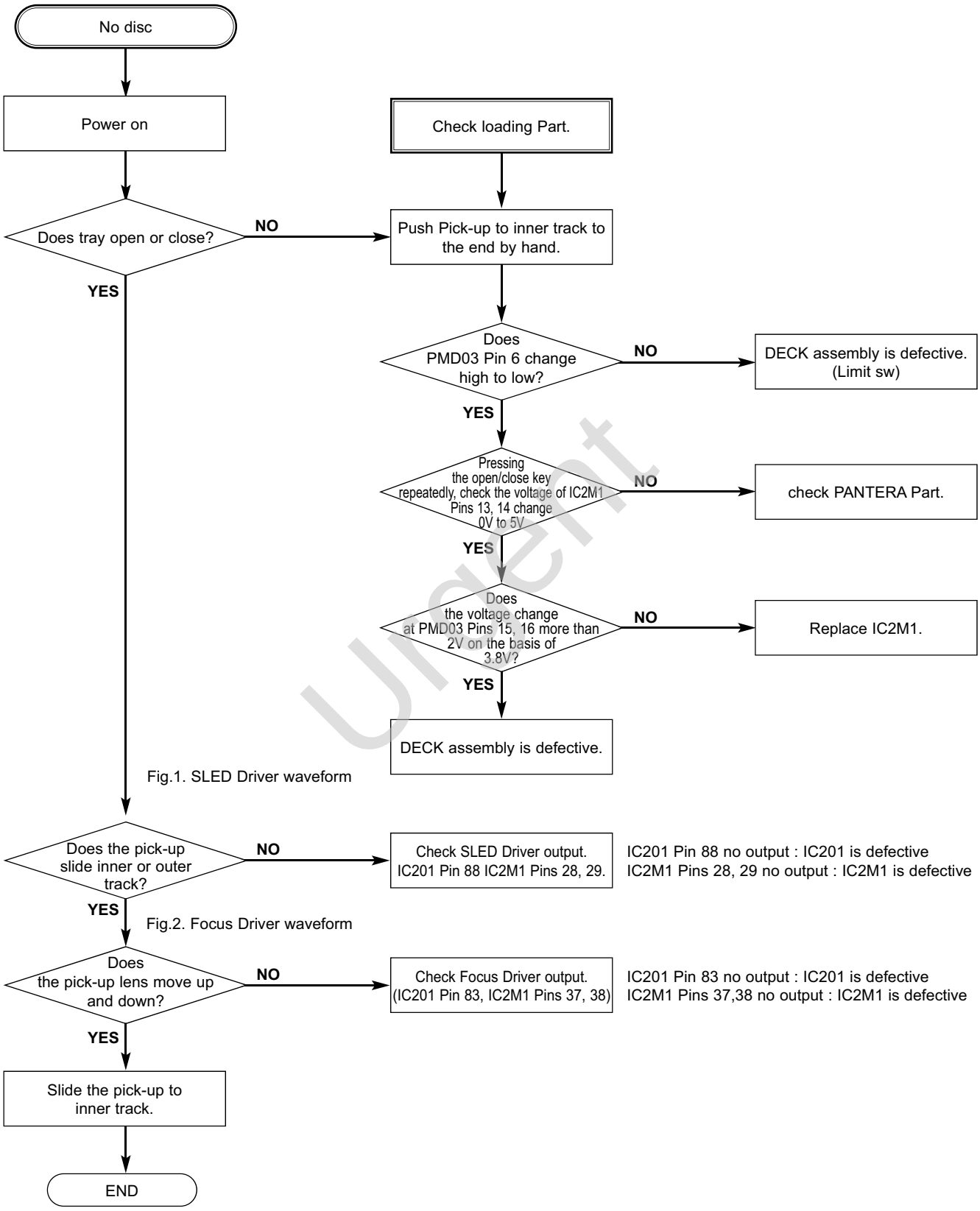

Fig.1. SLED Driver waveform

Fig.2. Focus Driver waveform

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C.

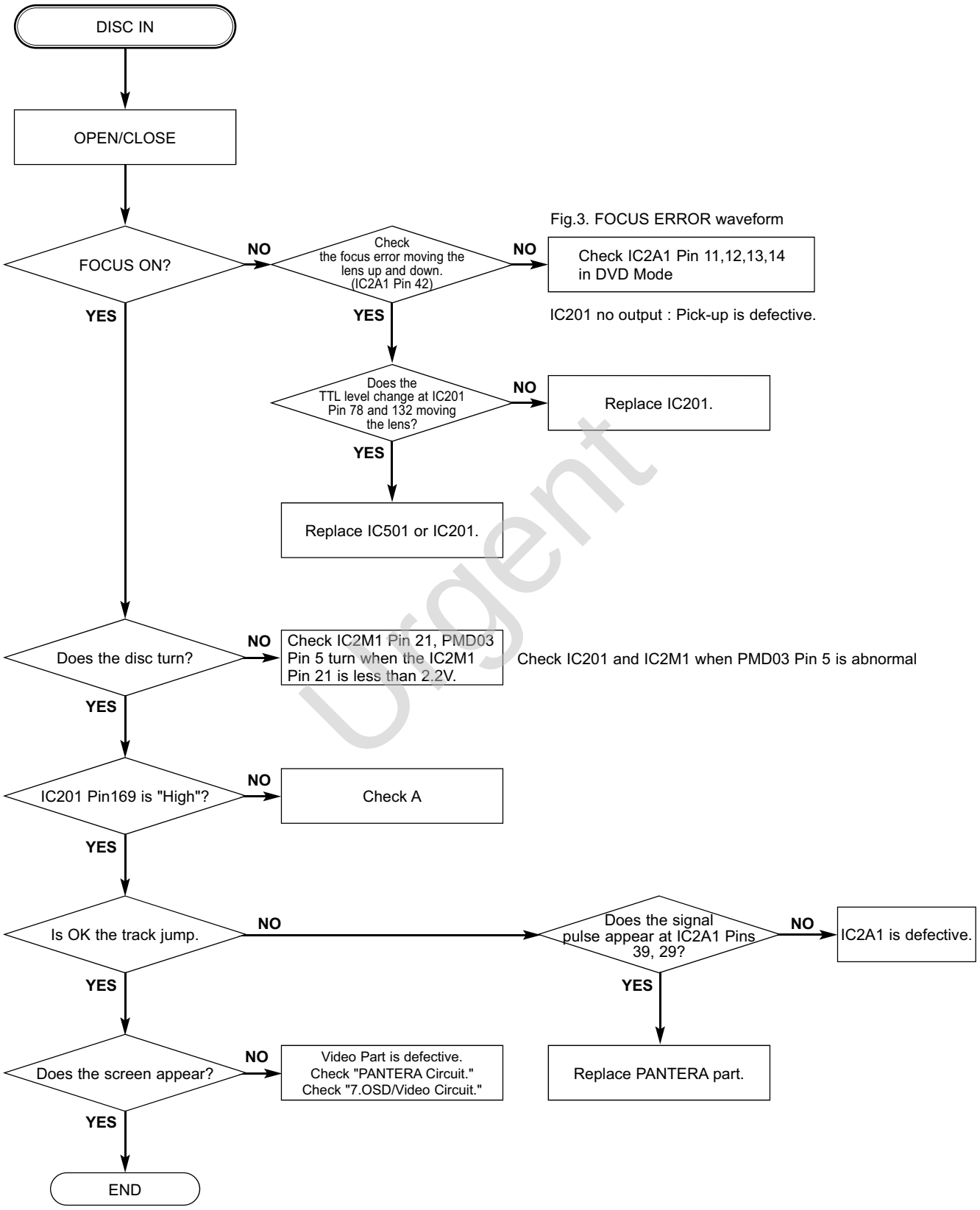

Fig.3. FOCUS ERROR waveform

IC201 no output : Pick-up is defective.

Check IC201 and IC2M1 when PMD03 Pin 5 is abnormal

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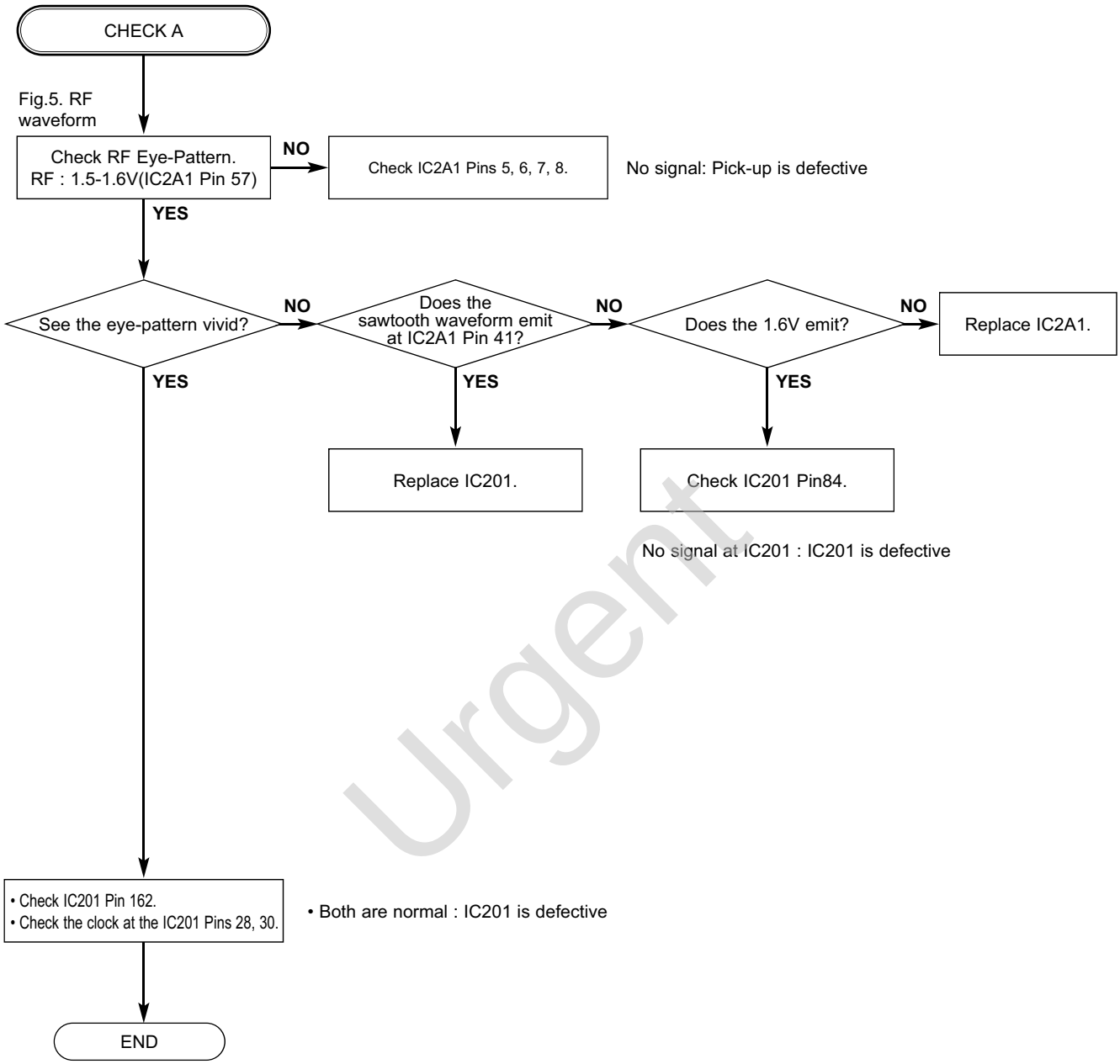
D.


CHECK A
Fig.5. RF waveform
Check RF Eye-Pattern.
RF : 1.5-1.6V(IC2A1 Pin 57)
NO
Check IC2A1 Pins 5, 6, 7, 8.
No signal: Pick-up is defective
YES
See the eye-pattern vivid?
NO
Does the sawtooth waveform emit at IC2A1 Pin 41?
NO
Does the 1.6V emit?
NO
Replace IC2A1.
YES
YES
YES
Replace IC201.
Check IC201 Pin84.
No signal at IC201 : IC201 is defective
• Check IC201 Pin 162.
• Check the clock at the IC201 Pins 28, 30.
• Both are normal : IC201 is defective
END

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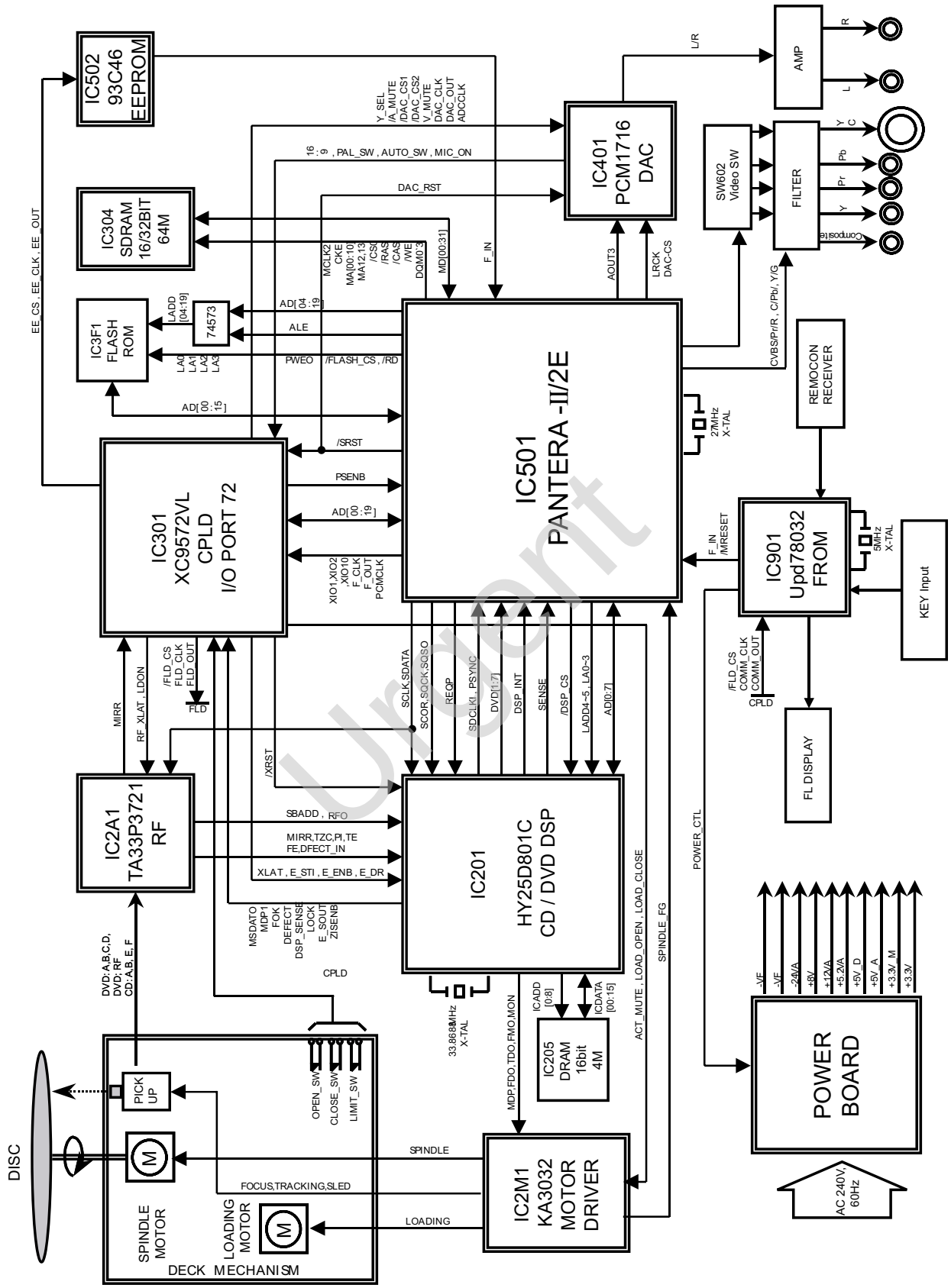
BLOCK DIAGRAMS

1. Overall Block Diagram



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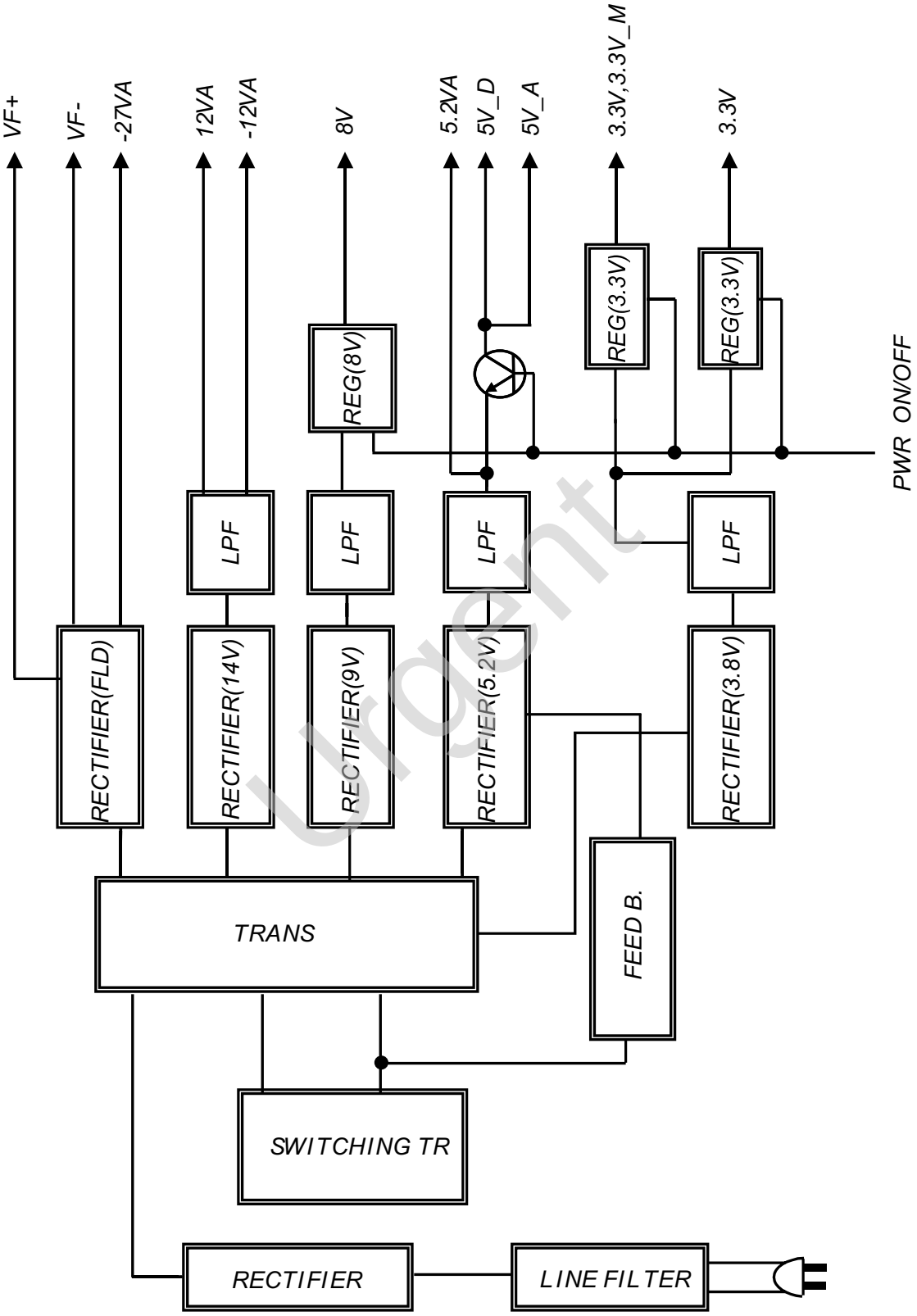
2. Power(SMPS) Block Diagram



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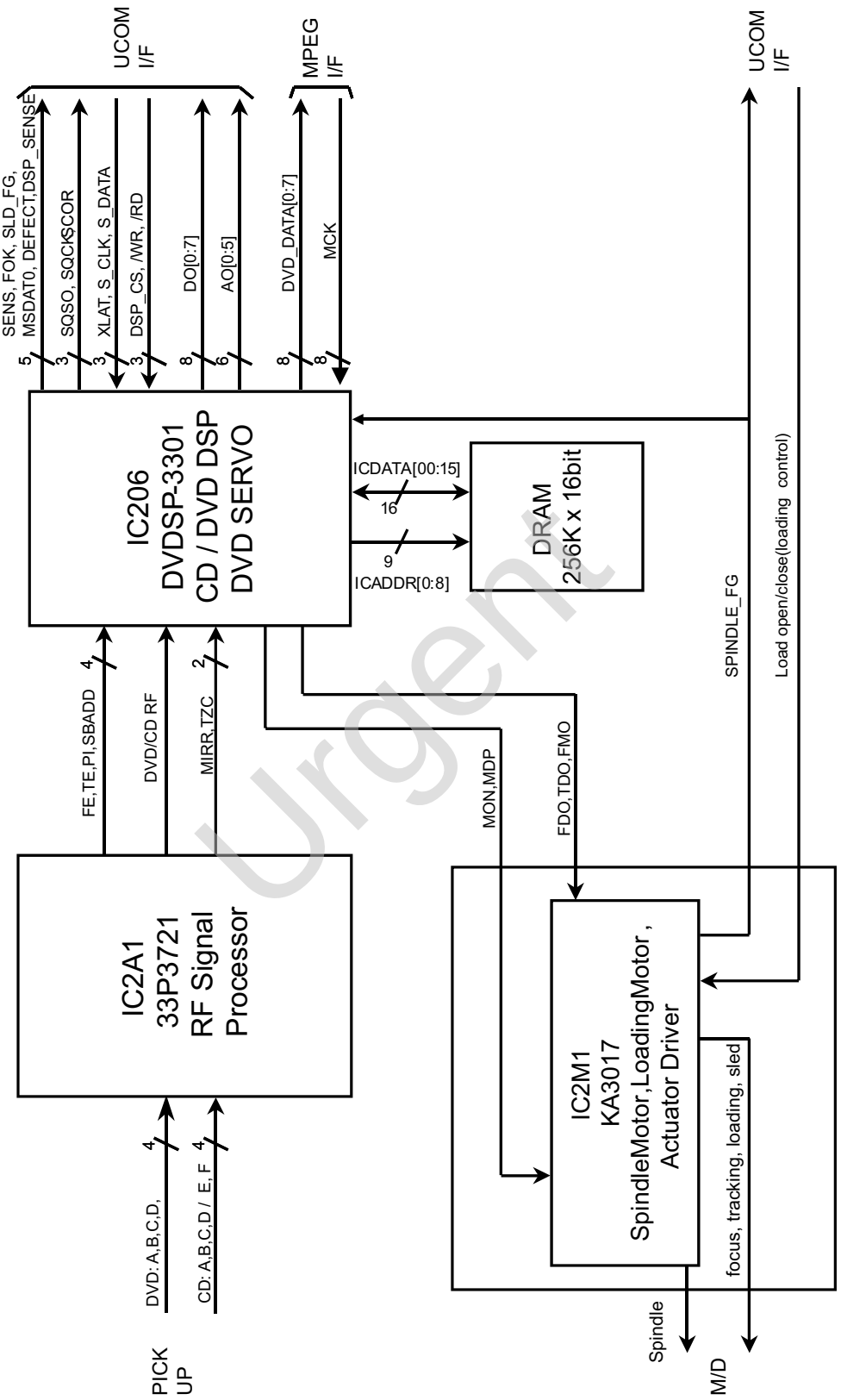
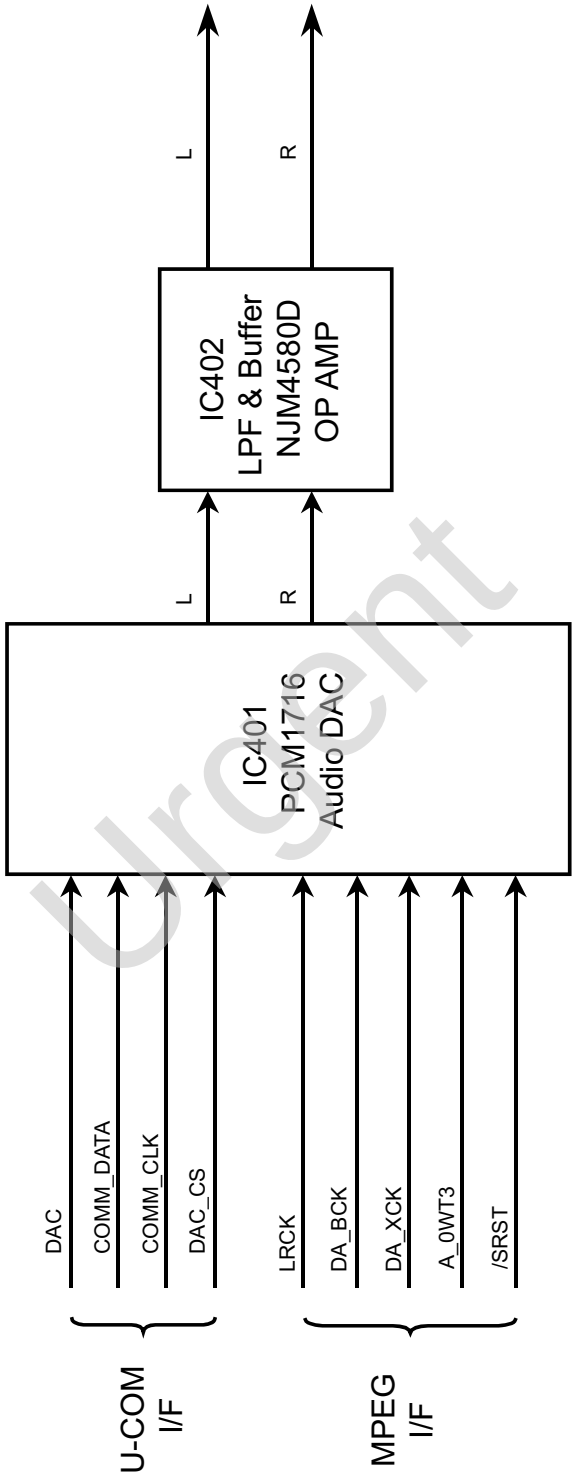
3. RF/CD DSP/DVD DSP/DVD SERVO Block Diagram



4. Audio Block Diagram



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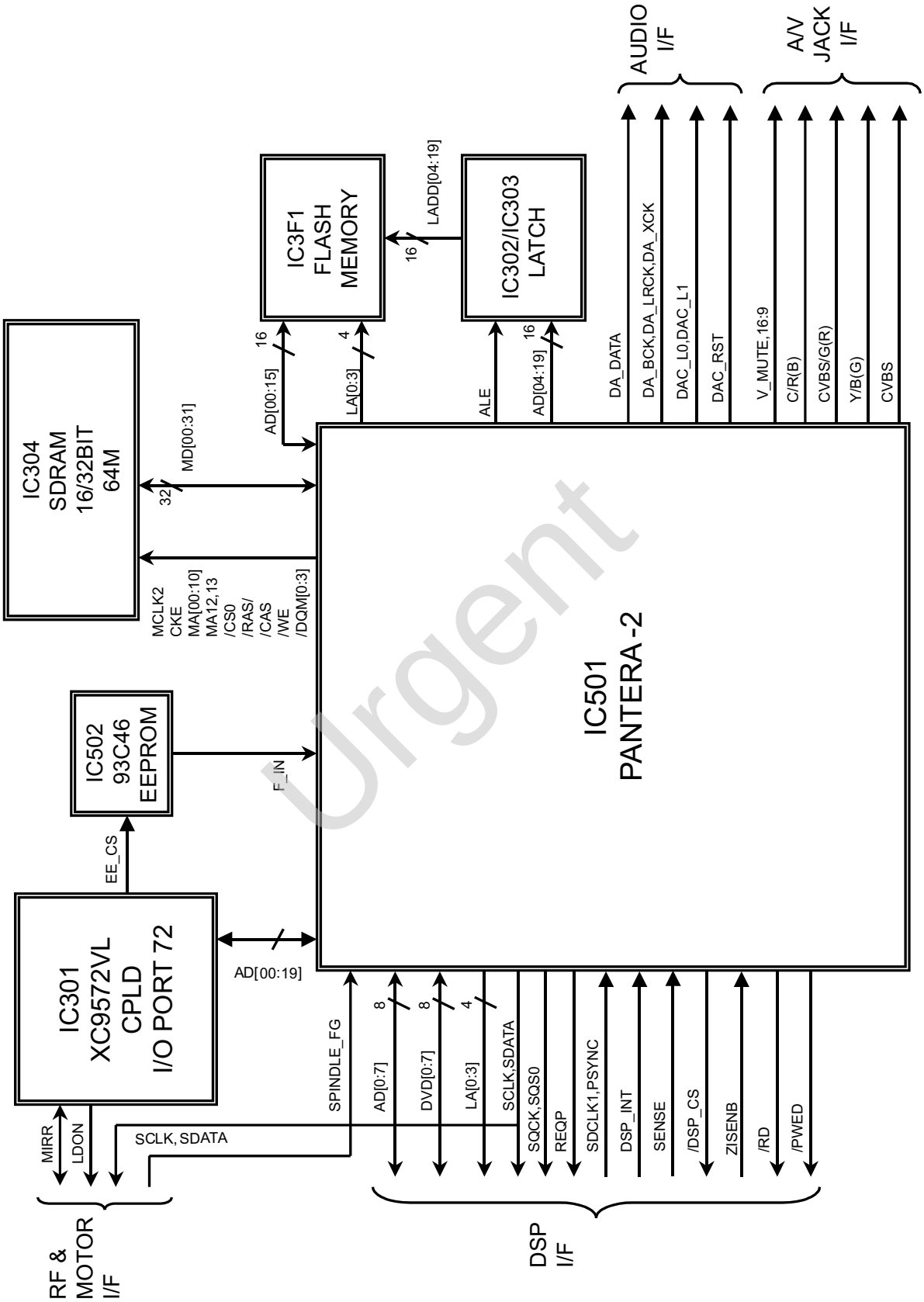
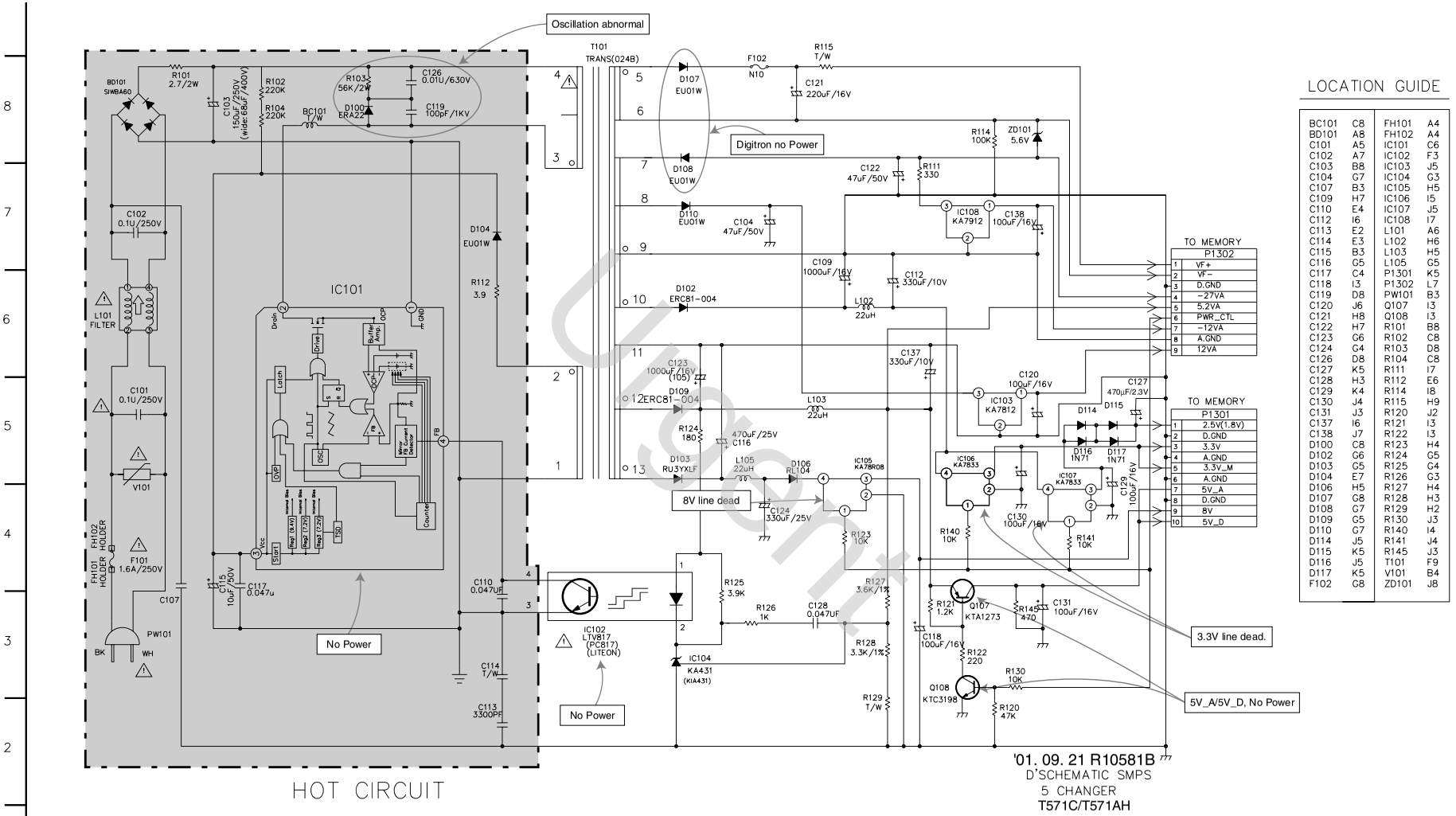
5. MPEG Block Diagram



CIRCUIT DIAGRAM

1. POWER(SMPS) CIRCUIT DIAGRAM

NOTE :
1. Shaded(▥) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during Play mode.



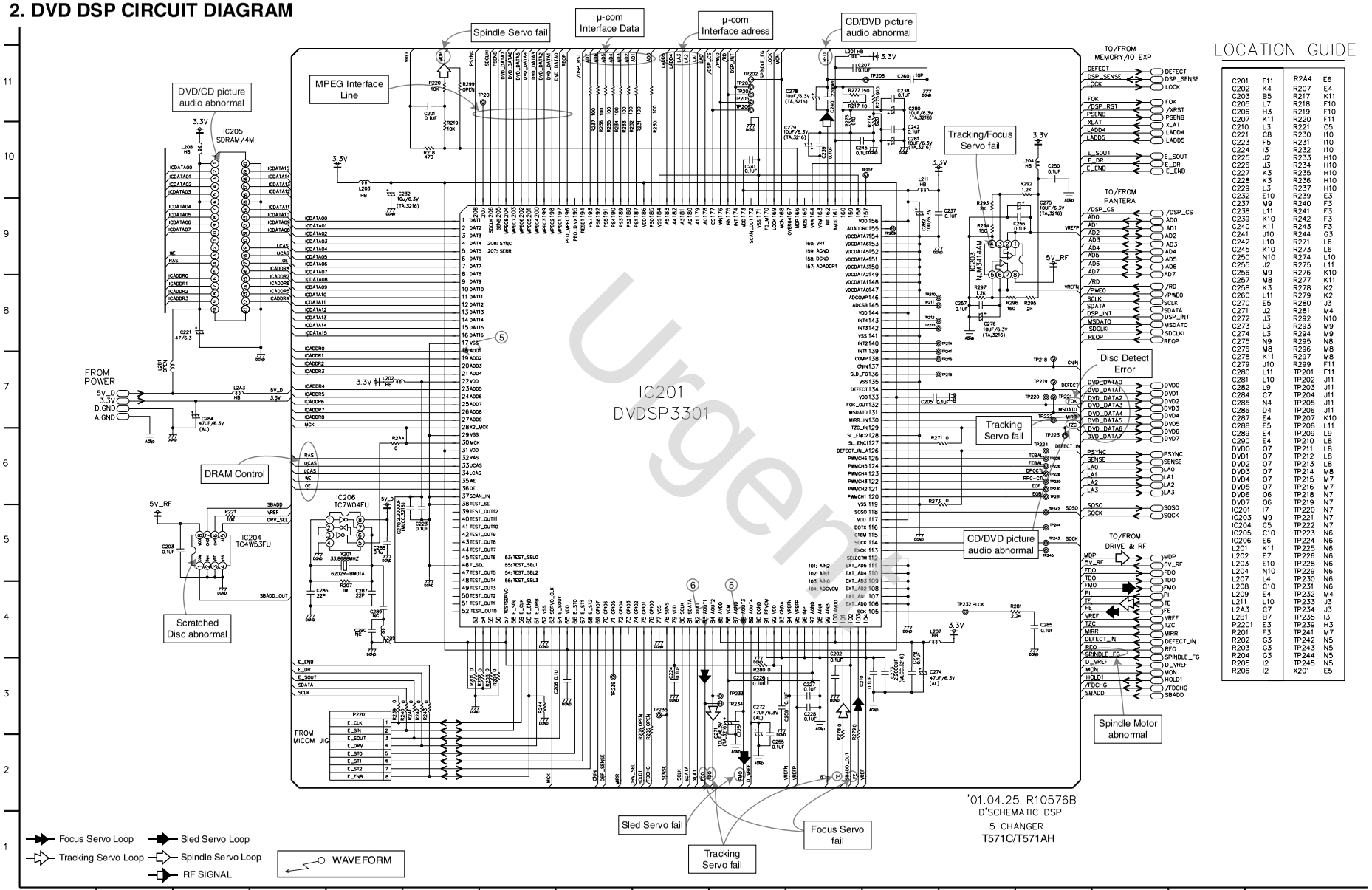
NOTES) ⚠ Warning
Parts that are shaded are critical With respect to risk of fire or electricial shock.

LOCATION GUIDE

BC101	C8	FH101	A4
BD101	A8	FH102	A4
C101	A5	IC101	C6
C102	A7	IC102	F3
C103	B8	IC103	J5
C104	G7	IC104	G3
C107	B3	IC105	H5
C109	H7	IC106	I5
C110	E4	IC107	J5
C112	I6	IC108	I7
C113	E2	L101	A6
C114	E3	L102	H6
C115	B3	L103	H5
C116	C5	L105	G5
C117	C4	P1301	K5
C118	I3	P1302	L7
C119	D8	PW101	B3
C120	J6	Q107	I3
C121	H8	Q108	I3
C122	H7	R101	B8
C123	G6	R102	C8
C124	G4	R103	D8
C126	D8	R104	C8
C127	K5	R111	I7
C128	H3	R112	E6
C129	K4	R114	I8
C130	J4	R115	H9
C131	J3	R120	J2
C137	I6	R121	I3
C138	J7	R122	I3
D100	C8	R123	H4
D102	G6	R124	G5
D103	G5	R125	G4
D104	E7	R126	G3
D106	H5	R127	H4
D107	G8	R128	H3
D108	C7	R129	H2
D109	G5	R130	J3
D110	C7	R140	I4
D114	J5	R141	J4
D115	K5	R145	J3
D116	J5	T101	F9
D117	K5	V101	B4
F102	G8	ZD101	J8

USER

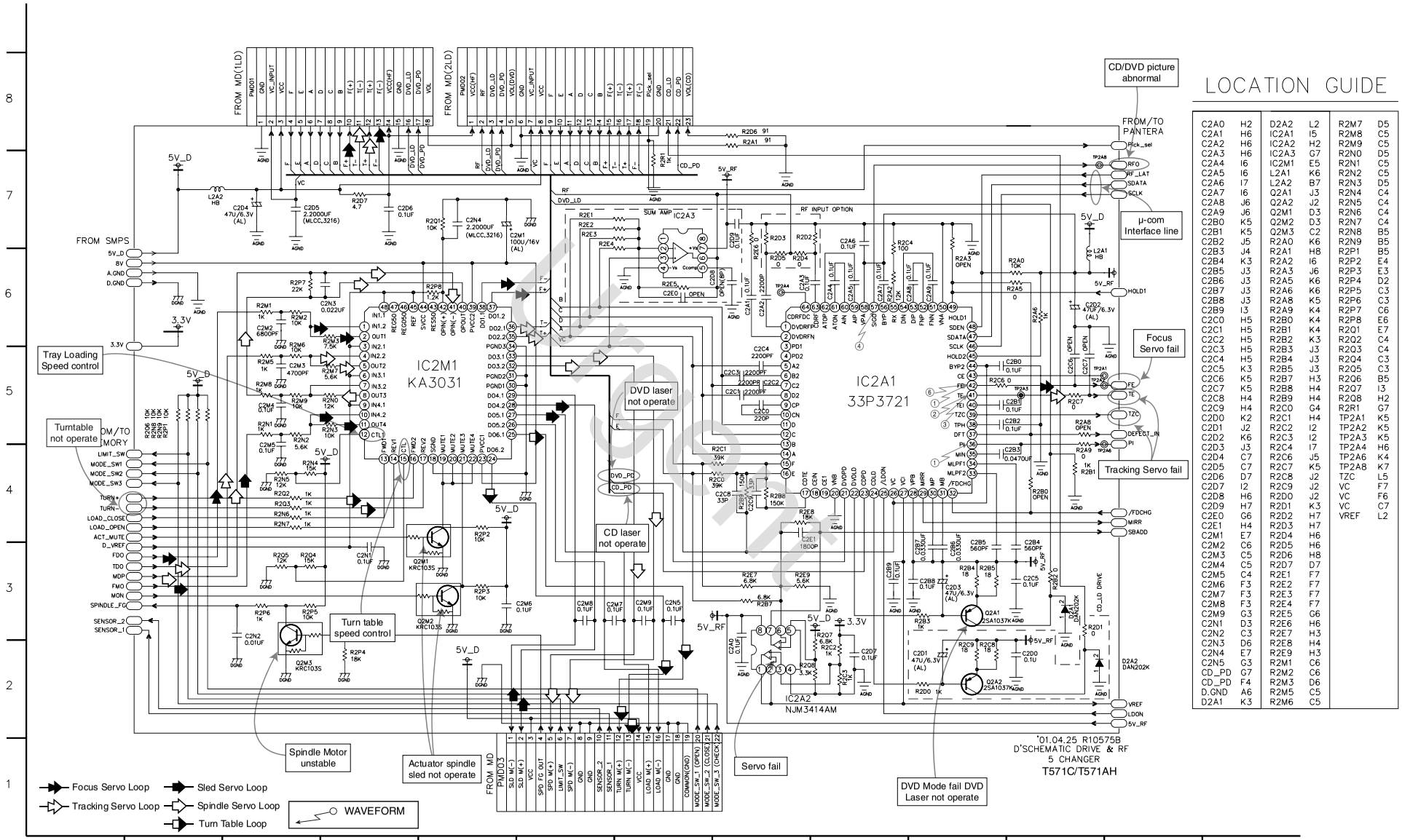
2. DVD DSP CIRCUIT DIAGRAM



LOCATION GUIDE

C201	F11	R2A4	E6
C202	K4	R207	E4
C203	B5	R217	K11
C205	L7	R218	F10
C206	H3	R219	F10
C207	K11	R220	F11
C210	L3	R221	C5
C221	C8	R230	I10
C223	F5	R231	I10
C224	I3	R232	I10
C225	J2	R233	H10
C226	J3	R234	H10
C227	K3	R235	H10
C228	K3	R236	H10
C229	L3	R237	H10
C232	E10	R239	E3
C237	M9	R240	F3
C238	L11	R241	F3
C239	K10	R242	F3
C240	K11	R243	F3
C241	J10	R244	G3
C242	L10	R271	L6
C245	K10	R273	L6
C250	N10	R274	L10
C255	J2	R275	L11
C256	M9	R276	K10
C257	M8	R277	K11
C258	K3	R278	K2
C260	L11	R279	K2
C270	E5	R280	J3
C271	J2	R281	M4
C272	J3	R292	N10
C273	L3	R293	M9
C274	L3	R294	M9
C275	N9	R295	N8
C276	M8	R296	M8
C278	K11	R297	M8
C279	J10	R299	F11
C280	L11	TP201	F11
C281	L10	TP202	J11
C282	L9	TP203	J11
C284	C7	TP204	J11
C285	N4	TP205	J11
C286	D4	TP206	J11
C287	E4	TP207	K10
C288	E5	TP208	L11
C289	E4	TP209	L9
C290	E4	TP210	L8
DVD0	O7	TP211	L8
DVD1	O7	TP212	L8
DVD2	O7	TP213	L8
DVD3	O7	TP214	M8
DVD4	O7	TP215	M7
DVD5	O7	TP216	M7
DVD6	O6	TP218	N7
DVD7	O6	TP219	N7
IC201	I7	TP220	N7
IC203	M9	TP221	N7
IC204	C5	TP222	N7
IC205	C10	TP223	N6
IC206	E6	TP224	N6
L201	K11	TP225	N6
L202	E7	TP226	N6
L203	E10	TP228	N6
L204	N10	TP229	N6
L207	L4	TP230	N6
L208	C10	TP231	N6
L209	E4	TP232	M4
L211	L10	TP233	J3
L2A3	C7	TP234	J3
L281	B7	TP235	I3
P2201	E3	TP239	H3
R201	F3	TP241	M7
R202	G3	TP242	N5
R203	G3	TP243	N5
R204	G3	TP244	N5
R205	I2	TP245	N5
R206	I2	X201	E5

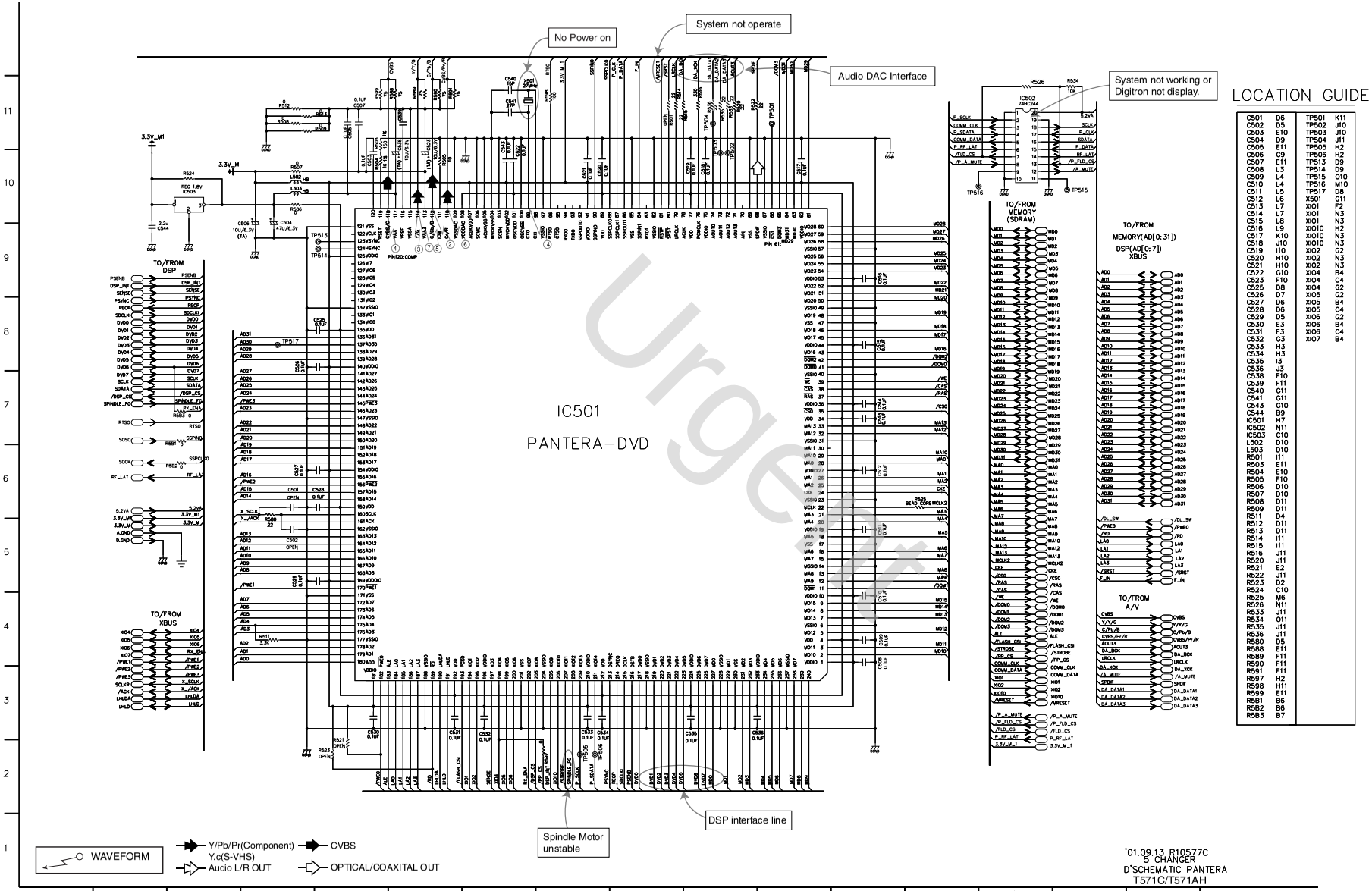
3. DRIVE & RF CIRCUIT DIAGRAM



LOCATION GUIDE

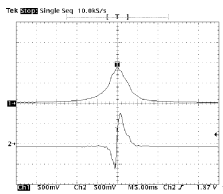
C2A0	H2	D2A2	L2	R2M7	D5
C2A1	H6	IC2A1	I5	R2M8	C5
C2A2	H6	IC2A2	H2	R2M9	C5
C2A3	H6	IC2A3	G7	R2N0	D5
C2A4	I6	IC2M1	E5	R2N1	C5
C2A5	I6	L2A1	K6	R2N2	C5
C2A6	I7	L2A2	B7	R2N3	D5
C2A7	I6	Q2A1	J3	R2N4	C4
C2A8	J6	Q2A2	J2	R2N5	C4
C2A9	J6	Q2M1	D3	R2N6	C4
C2B0	K5	Q2M2	D3	R2N7	C4
C2B1	K5	Q2M3	C2	R2N8	B5
C2B2	J5	R2A0	K6	R2N9	B5
C2B3	J4	R2A1	H8	R2P1	B5
C2B4	K3	R2A2	I6	R2P2	E4
C2B5	J3	R2A3	J6	R2P3	E3
C2B6	J3	R2A5	K6	R2P4	D2
C2B7	J3	R2A6	K6	R2P5	C3
C2B8	J3	R2A8	K5	R2P6	C3
C2B9	I3	R2A9	K4	R2P7	C6
C2C0	H5	R2B0	K4	R2P8	E6
C2C1	H5	R2B1	K4	R2Q1	E7
C2C2	H5	R2B2	K3	R2Q2	C4
C2C3	H5	R2B3	J3	R2Q3	C4
C2C4	H5	R2B4	J3	R2Q4	C3
C2C5	K3	R2B5	J3	R2Q5	C3
C2C6	K5	R2B7	H3	R2Q6	B5
C2C7	K5	R2B8	H4	R2Q7	I3
C2C8	H4	R2B9	H4	R2Q8	H2
C2C9	H4	R2C0	G4	R2R1	G7
C2D0	K2	R2C1	H4	TP2A1	K5
C2D1	J2	R2C2	I2	TP2A2	K5
C2D2	K6	R2C3	I2	TP2A3	K5
C2D3	J3	R2C4	I7	TP2A4	H6
C2D4	C7	R2C6	J5	TP2A6	K4
C2D5	C7	R2C7	K5	TP2A8	K7
C2D6	D7	R2C8	J2	TZC	L5
C2D7	I2	R2C9	J2	VC	F7
C2D8	H6	R2D0	J2	VC	F6
C2D9	H7	R2D1	K3	VC	C7
C2E0	G6	R2D2	H7	VREF	L2
C2E1	H4	R2D3	H7		
C2M1	E7	R2D4	H6		
C2M2	C6	R2D5	H6		
C2M3	C5	R2D6	H8		
C2M4	C5	R2D7	D7		
C2M5	C4	R2E1	F7		
C2M6	F3	R2E2	F7		
C2M7	F3	R2E3	F7		
C2M8	F3	R2E4	F7		
C2M9	G3	R2E5	G6		
C2N1	D3	R2E6	H6		
C2N2	C3	R2E7	H3		
C2N3	D6	R2E8	H4		
C2N4	E7	R2E9	H3		
C2N5	G3	R2M1	C6		
CD_PD	G7	R2M2	C6		
CD_PD	F4	R2M3	D6		
D.GND	A6	R2M5	C5		
D2A1	K3	R2M6	C5		

4. PANTERA CIRCUIT DIAGRAM

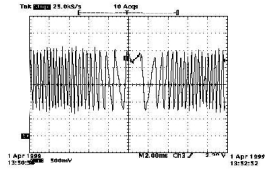


Urgent

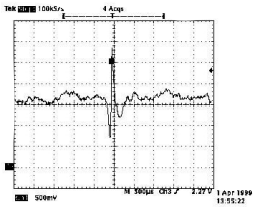
• WAVEFORMS

① 

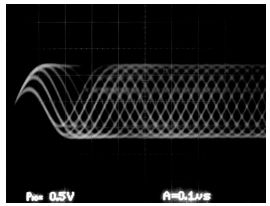
IC2A1 Pin 42, Focus Error
IC2A1 Pin 36, Pi

② 

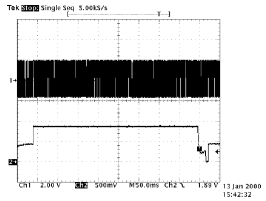
IC2A1 Pin 41
Tracking Error

③ 

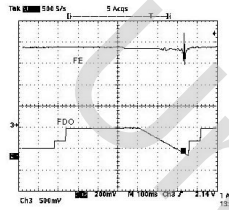
IC2A1 Pin 41
VBR TRACKING Error

④ 

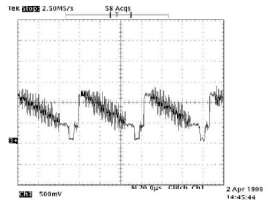
IC2A1 Pin 57,
RF

⑤ 

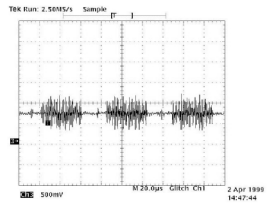
IC201 Pin 88, SLED Drive(FMO)
IC201 Pin 18, SLED FG

⑥ 

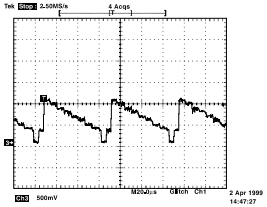
IC2A1 Pin42, Focus Error(in Focus Search)
IC201 Pin 83, Focus Drive(FDO)

① 

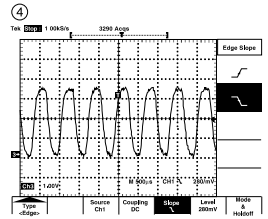
IC501 Pin 118, Composite

② 

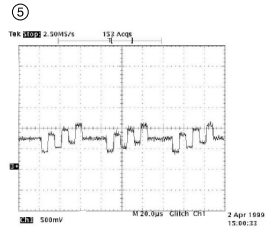
IC501 Pin 112, Chrominance
(Super video out Mode)

③ 

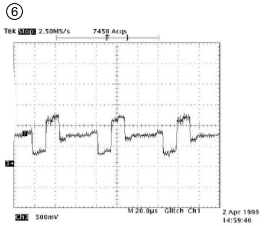
IC501 Pin 114, Luminance
(Super video out Mode)

④ 

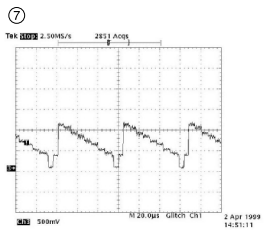
IC501 Pin 99,
PANTER MAIN

⑤ 

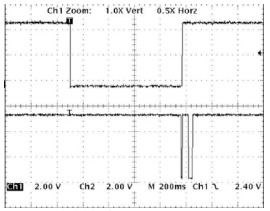
IC501 Pin 112
Component Pb

⑥ 

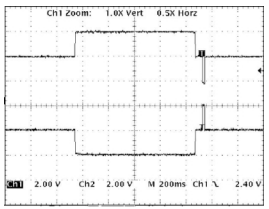
IC501 Pin 110
Component Pr

⑦ 

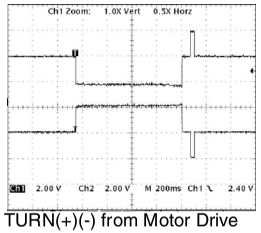
IC501 Pin 114
Component Y

① 

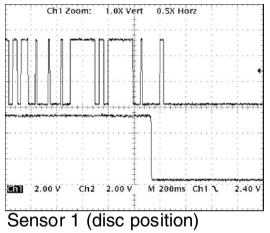
TURN(+)(-) Signal from µ-com

② 

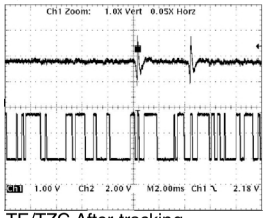
TURN(+)(-) from Motor Drive
Forward turn

③ 

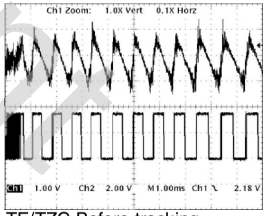
TURN(+)(-) from Motor Drive
Reverse turn

④ 

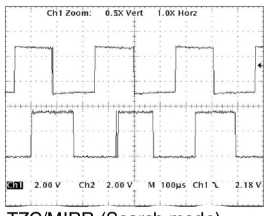
Sensor 1 (disc position)
Sensor 2 (disc ready)

⑤ 

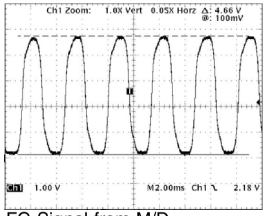
TE/TZC After tracking
servo ON (Play mode)

⑥ 

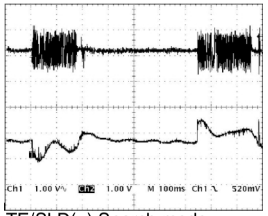
TE/TZC Before tracking
servo ON

⑦ 

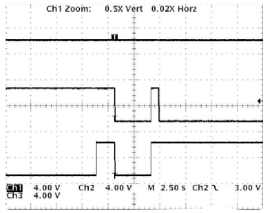
TZC/MIRR (Search mode)

⑧ 

FG Signal from M/D
(Play mode)

⑨ 

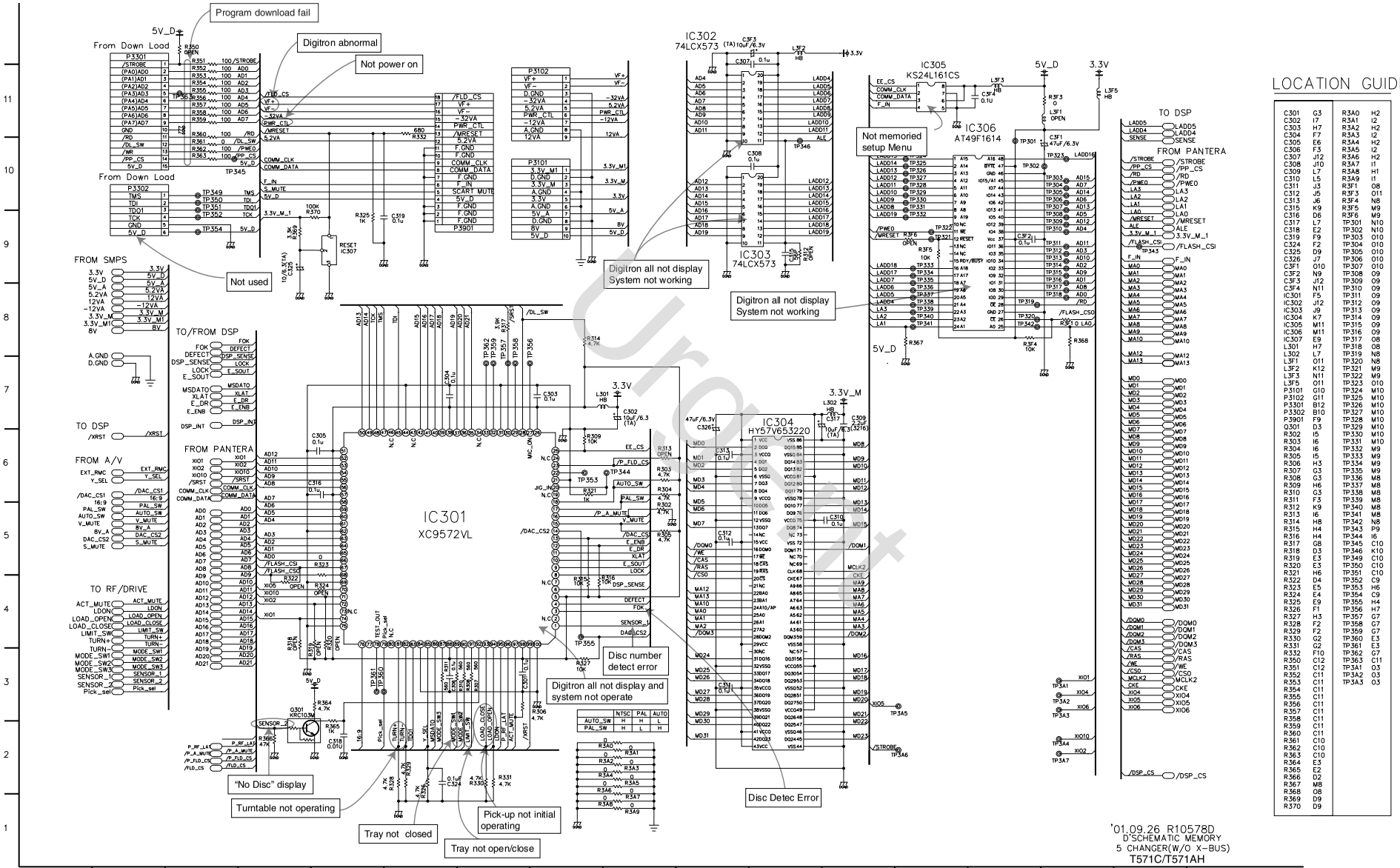
TE/SLD(+) Search mode
(outter ⇒ inner)

⑩ 

Tray open Tray closed

Creative

5. MEMORY CIRCUIT DIAGRAM



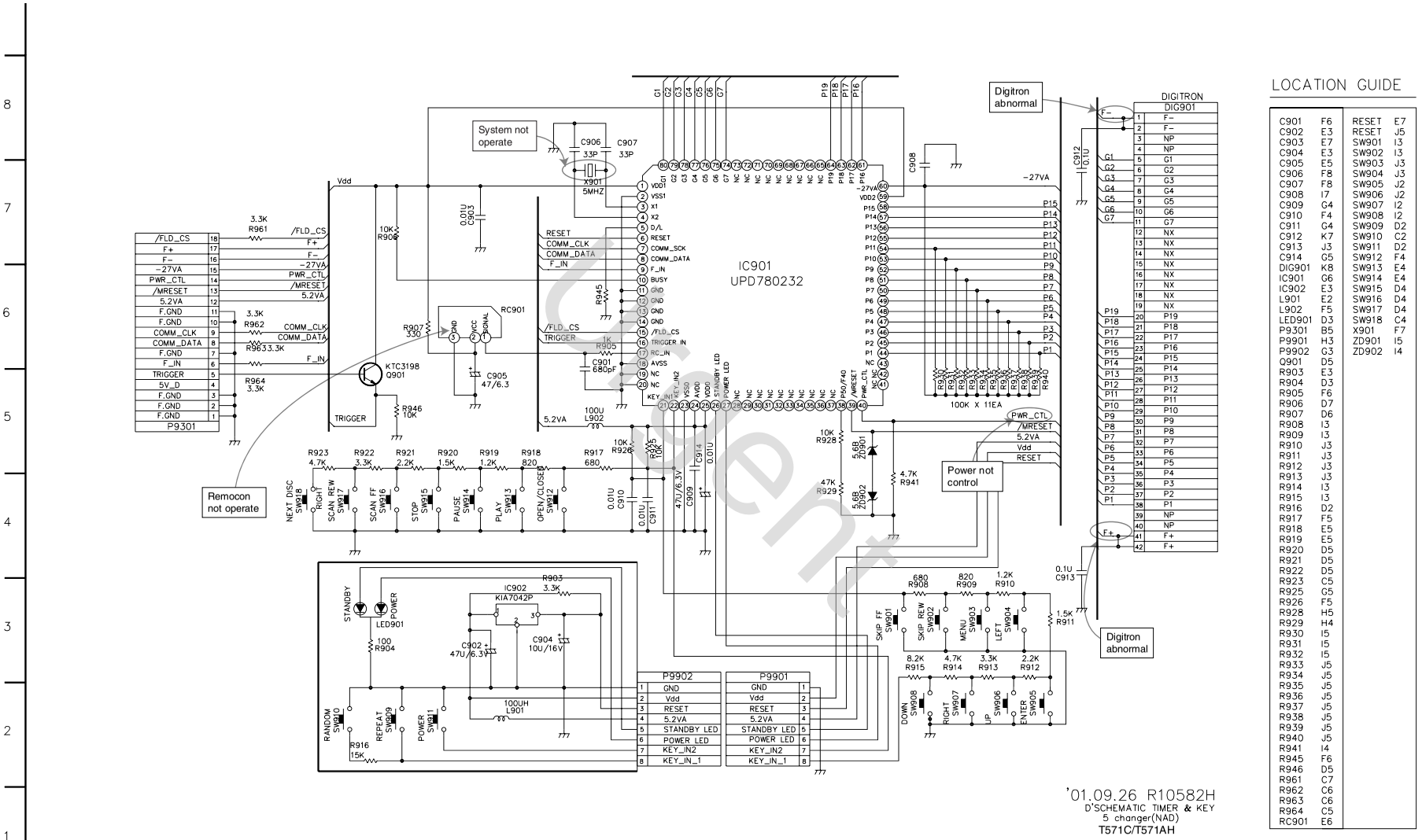
LOCATION GUIDE

C301	G3	R3A0	H2
C302	I7	R3A1	I2
C303	H7	R3A2	H2
C304	F7	R3A3	I2
C305	E6	R3A4	H2
C306	F3	R3A5	I2
C307	J12	R3A6	H2
C308	J10	R3A7	I1
C309	L7	R3A8	H1
C310	L5	R3A9	I1
C311	J3	R3F1	O8
C312	J5	R3F3	O11
C313	J6	R3F4	N8
C315	K9	R3F5	M9
C316	D6	R3F6	M9
C317	L7	TP301	N10
C318	E2	TP302	N10
C319	F9	TP303	O10
C324	F2	TP304	O10
C325	D9	TP305	O10
C326	J7	TP306	O10
C3F1	O10	TP307	O10
C3F2	N9	TP308	O9
C3F3	J12	TP309	O9
C3F4	N11	TP310	O9
IC301	F5	TP311	O9
IC302	J12	TP312	O9
IC303	J9	TP313	O9
IC304	K7	TP314	O9
IC305	M11	TP315	O9
IC306	M11	TP316	O9
IC307	E9	TP317	O8
L301	H7	TP318	O8
L302	L7	TP319	N8
L3F1	O11	TP320	N8
L3F2	K12	TP321	M9
L3F3	N11	TP322	M9
L3F5	O11	TP323	O10
P3101	G10	TP324	M10
P3102	G11	TP325	M10
P3301	B12	TP326	M10
P3302	B10	TP327	M10
P3901	F9	TP328	M10
Q301	D3	TP329	M10
R302	I5	TP330	M10
R303	I6	TP331	M10
R304	I6	TP332	M9
R305	I5	TP333	M9
R306	H3	TP334	M9
R307	G3	TP335	M9
R308	G3	TP336	M8
R309	H6	TP337	M8
R310	G3	TP338	M8
R311	F3	TP339	M8
R312	K9	TP340	M8
R313	I6	TP341	M8
R314	H8	TP342	N8
R315	H4	TP343	P9
R316	H4	TP344	I6
R317	G8	TP345	C10
R318	D3	TP346	K10
R319	E3	TP349	C10
R320	E3	TP350	C10
R321	H6	TP351	C10
R322	D4	TP352	C9
R323	E5	TP353	H6
R324	E4	TP354	C9
R325	E9	TP355	H4
R326	F1	TP356	H7
R327	H3	TP357	G7
R328	F2	TP358	G7
R329	F2	TP359	G7
R330	G2	TP360	E3
R331	G2	TP361	E3
R332	F10	TP362	G7
R350	C12	TP363	C11
R351	C12	TP3A1	O3
R352	C11	TP3A2	O3
R353	C11	TP3A3	O3
R354	C11		
R355	C11		
R356	C11		
R357	C11		
R358	C11		
R359	C11		
R360	C11		
R361	C10		
R362	C10		
R363	C10		
R364	E3		
R365	E2		
R366	D2		
R367	M8		
R368	O8		
R369	D9		
R370	D9		

'01.09.26 R10578D
D'SCHEMATIC MEMORY
5 CHANGER(W/O X-BUS)
T571C/T571AH

Unofficial

6. TIMER & KEY CIRCUIT DIAGRAM

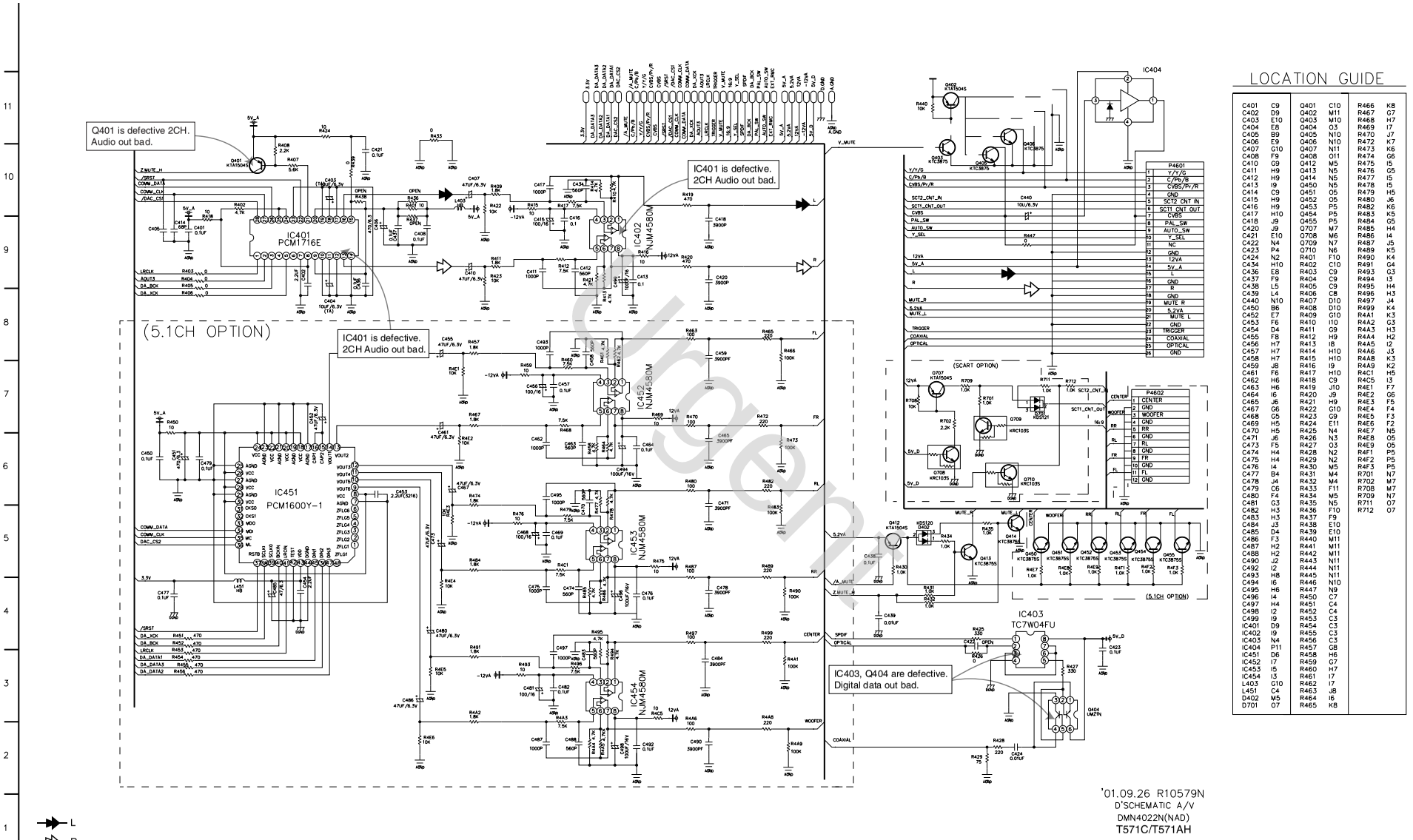


LOCATION GUIDE

C901	F6	RESET	E7
C902	E3	RESET	J5
C903	E7	SW901	I3
C904	E3	SW902	I3
C905	E5	SW903	J3
C906	F8	SW904	J3
C907	F8	SW905	J2
C908	I7	SW906	J2
C909	G4	SW907	I2
C910	F4	SW908	I2
C911	G4	SW909	D2
C912	K7	SW910	C2
C913	J3	SW911	D2
C914	G5	SW912	F4
DIG901	K8	SW913	E4
IC901	G6	SW914	E4
IC902	E3	SW915	D4
L901	E2	SW916	D4
L902	F5	SW917	D4
LED901	D3	SW918	C4
P9301	B5	X901	F7
P9901	H3	ZD901	I5
P9902	G3	ZD902	I4
Q901	D5		
R903	E3		
R904	D3		
R905	F6		
R906	D7		
R907	D6		
R908	I3		
R909	I3		
R910	J3		
R911	J3		
R912	J3		
R913	J3		
R914	I3		
R915	I3		
R916	D2		
R917	F5		
R918	E5		
R919	E5		
R920	D5		
R921	D5		
R922	D5		
R923	C5		
R925	G5		
R926	F5		
R928	H5		
R929	H4		
R930	I5		
R931	I5		
R932	I5		
R933	J5		
R934	J5		
R935	J5		
R936	J5		
R937	J5		
R938	J5		
R939	J5		
R940	J5		
R941	I4		
R945	F6		
R946	D5		
R961	C7		
R962	C6		
R963	C6		
R964	C5		
RC901	E6		

Sample

7. A/V CIRCUIT DIAGRAM

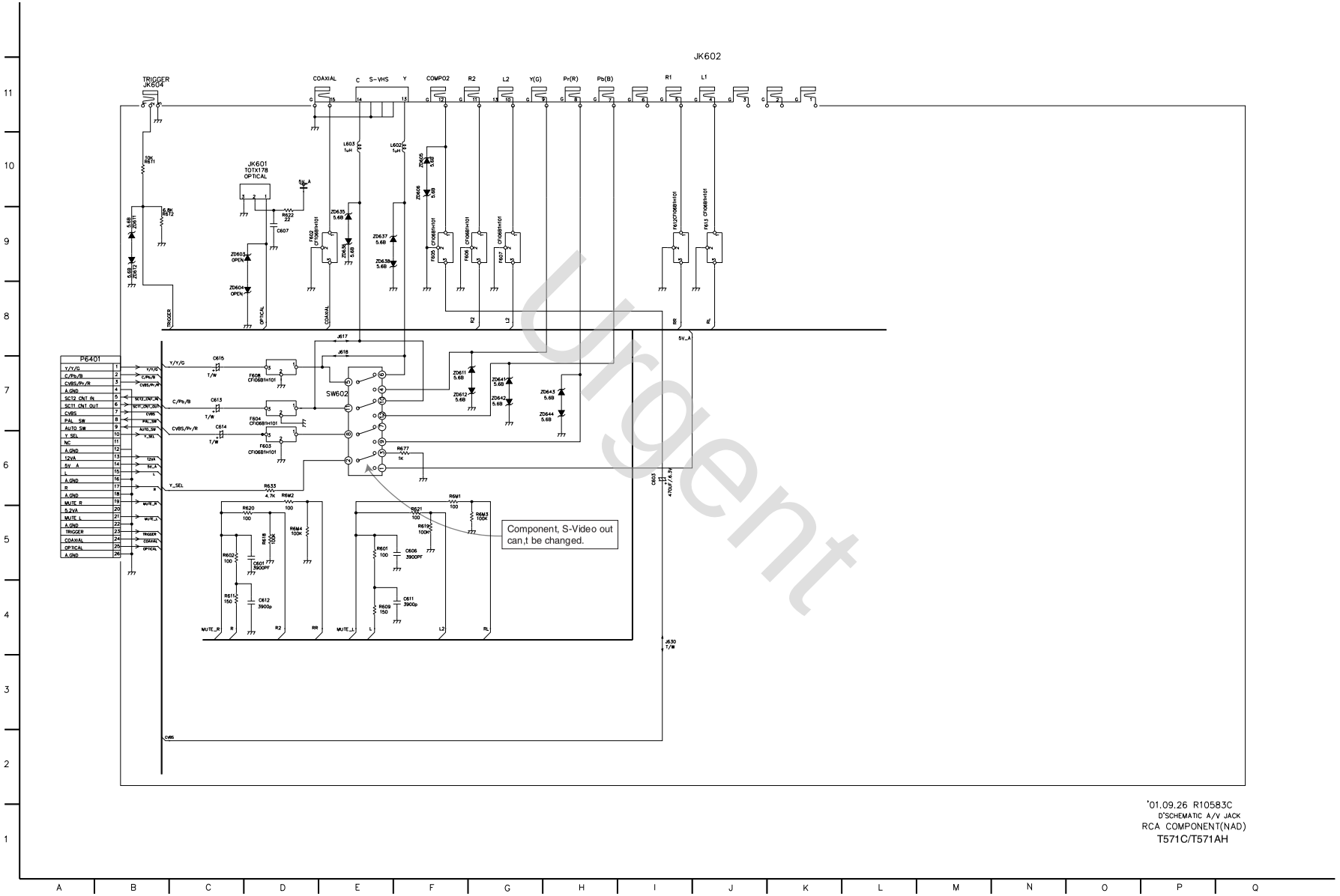


LOCATION GUIDE

C401	C9	Q401	C10	R466	K8
C402	D9	Q402	M11	R467	G7
C403	E10	Q403	M10	R468	H7
C404	E8	Q404	O3	R469	I7
C405	B9	Q405	N10	R470	J7
C406	E9	Q406	N10	R472	K7
C407	G10	Q407	N11	R473	K6
C408	F9	Q408	O11	R474	G6
C410	G9	Q412	M5	R475	I5
C411	H9	Q413	N5	R476	G5
C412	H9	Q414	N5	R477	I5
C413	I9	Q450	N5	R478	I5
C414	C9	Q451	O5	R479	H5
C415	H9	Q452	O5	R480	J6
C416	H9	Q453	P5	R482	K6
C417	H10	Q454	P5	R483	K5
C418	J9	Q455	P5	R484	G5
C420	J9	Q707	M7	R485	H4
C421	E10	Q708	M6	R486	I4
C422	N4	Q709	N7	R487	J5
C423	P4	Q710	N6	R489	K5
C424	N2	R401	F10	R490	K4
C434	H10	R402	C10	R491	G4
C436	E8	R403	C9	R493	G3
C437	F9	R404	C9	R494	I3
C438	L5	R405	C9	R495	H4
C439	L4	R406	C8	R496	H3
C440	N10	R407	D10	R497	J4
C450	B6	R408	D10	R499	K4
C452	E7	R409	G10	R4A1	K3
C453	F6	R410	I10	R4A2	G3
C454	D4	R411	G9	R4A3	H3
C455	F8	R412	H9	R4A4	H2
C456	H7	R413	I8	R4A5	I2
C457	H7	R414	H10	R4A6	J3
C458	H7	R415	H10	R4A8	K3
C459	J8	R416	I9	R4A9	K2
C461	F6	R417	H10	R4C1	H5
C462	H6	R418	C9	R4C5	I3
C463	H6	R419	J10	R4E1	F7
C464	I6	R420	J9	R4E2	G6
C465	J6	R421	H9	R4E3	F5
C467	G6	R422	G10	R4E4	F4
C468	G5	R423	G9	R4E5	F3
C469	H5	R424	E11	R4E6	F2
C470	H5	R425	N4	R4E7	N5
C471	J6	R426	N3	R4E8	O5
C473	F5	R427	O3	R4E9	O5
C474	H4	R428	N2	R4F1	P5
C475	H4	R429	N2	R4F2	P5
C476	I4	R430	M5	R4F3	P5
C477	B4	R431	M4	R701	N7
C478	J4	R432	M4	R702	M7
C479	C6	R433	F11	R708	M7
C480	F4	R434	M5	R709	N7
C481	G3	R435	N5	R711	O7
C482	H3	R436	F10	R712	O7
C483	H3	R437	F9		
C484	J3	R438	E10		
C485	D4	R439	E10		
C486	F3	R440	M11		
C487	H2	R441	M11		
C488	H2	R442	M11		
C490	J2	R443	N11		
C492	I2	R444	N11		
C493	H8	R445	N11		
C494	I6	R446	N10		
C495	H6	R447	N9		
C496	I4	R450	C7		
C497	H4	R451	C4		
C498	I2	R452	C4		
C499	I9	R453	C3		
IC401	D9	R454	C3		
IC402	I9	R455	C3		
IC403	N4	R456	C3		
IC404	P11	R457	G8		
IC451	D6	R458	H6		
IC452	I7	R459	G7		
IC453	I5	R460	H7		
IC454	I3	R461	I7		
L403	G10	R462	I7		
L451	C4	R463	J8		
D402	M5	R464	I6		
D701	O7	R465	K8		

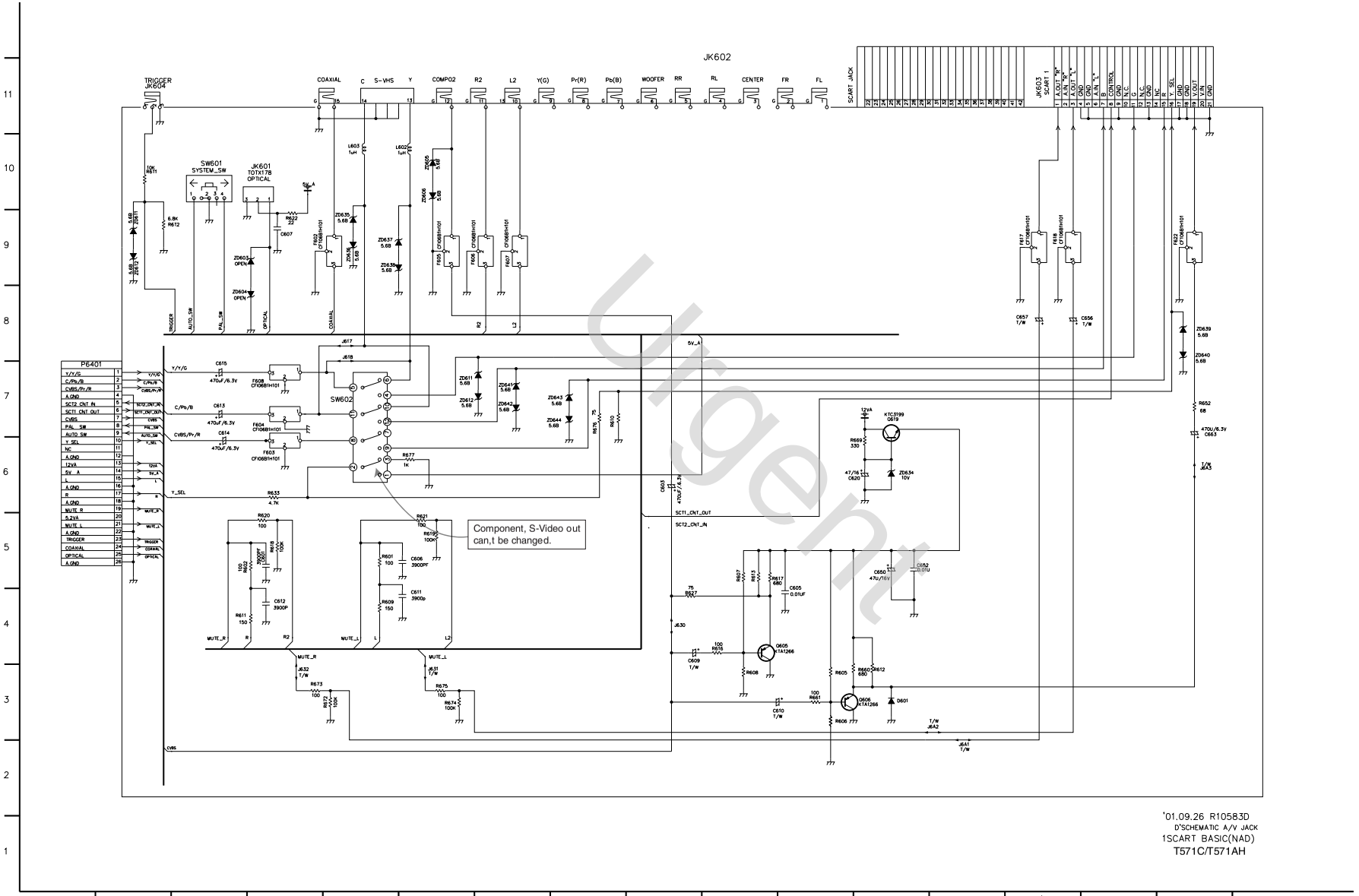
Preliminary

8. A/V JACK CIRCUIT DIAGRAM (T571AH ONLY)



Urgent

9. SCART CIRCUIT DIAGRAM (T571C ONLY)



Urgent

• CIRCUIT VOLTAGE CHART

MODE / PIN NO.	LEVEL(V)
PANTERA	
IC501	
1	3.18
2	1.3
3	1.4
4	2.2
5	1.5
6	0
7	1.5
8	1.4
9	1.6
10	3.1
11	0.7
12	0.15
13	0.15
14	0
15	0
16	1.7
17	1.4
18	0
19	1.5
20	1.6
21	0
22	1.6
23	0
24	3.1
25	1.7
26	1.4
27	3.1
28	1.5
29	0.15
30	
31	0
32	0.7
33	1.5
34	2.2
35	2
36	3.1
37	2.9
38	2.2
39	2.9
40	0
41	0
42	0
43	1.6
44	3.1
45	1.6
46	1.5
47	0
48	1.4
49	0
50	1.5
51	1.7
52	1.2
53	3.1

MODE / PIN NO.	LEVEL(V)
54	1.6
55	1.4
56	1.5
57	0
58	1.6
59	1.4
60	1.5
61	1.4
62	3.1
63	1
64	1.5
65	0.005
66	0.5
67	0.003
68	1.58
69	0
70	3.1
71	1.2
72	1.2
73	1.2
74	1.2
75	3.1
76	1.65
77	2.2
78	1.5
79	1.5
80	3.1
81	3.1
82	0.001
83	3.1
84	3.7
85	0
86	
87	3.1
88	3.1
89	2.1
90	0.004
91	3.1
92	0
93	
94	
95	
96	
97	0
98	
99	
100	0
101	2.1
102	3.1
103	0
104	0
105	0
106	0
107	2.1
108	2.1

MODE / PIN NO.	LEVEL(V)
109	0
110	0.8
111	0.9
112	1.3
113	3.1
114	0.78
115	0
116	1.26
117	2.38
118	0.08
119	1.2
120	2
121	0
122	3.1
123	3.1
124	3.1
125	3.1
126	
127	
128	
129	
130	
131	
132	0
133	
134	
135	2.2
136	
137	3.1
138	3.1
139	3.1
140	3.1
141	3.1
142	3.1
143	3.1
144	3.1
145	3.1
146	3.1
147	0
148	3.1
149	3.1
150	3.1
151	3.1
152	3.1
153	3.1
154	3.1
155	3.1
156	3.1
157	3.1
158	3.1
159	2.2
160	1.5
161	3.1
162	
163	0

MODE / PIN NO.	LEVEL(V)
164	3.1
165	3.1
166	3.1
167	3.1
168	3.1
169	3.1
170	3.1
171	0
172	3.1
173	3.1
174	3.1
175	1.5
176	3.1
177	0
178	3.1
179	3.1
180	3.1
181	3.1
182	3.18
183	0.086
184	3
185	2.4
186	2.3
187	0
188	0
189	3.1
190	0
191	0.017
192	2.2
193	3.1
194	3.1
195	0
196	3.18
197	1.3
198	3.1
199	3.1
200	3.1
201	0
202	2.3
203	3.1
204	0.001
205	3.1
206	3.1
207	3.1
208	1.6
209	3.1
210	3.18
211	0.018
212	2.2
213	3.19
214	2.69
215	1.5
216	2.9
217	2.59
218	0

MODE / PIN NO.	LEVEL(V)
219	2.29
220	2.08
221	2.29
222	2.29
223	2.49
224	3.1
225	2.39
226	2.45
227	1.5
228	0
229	1.52
230	0
231	1.61
232	1.6
233	3.1
234	1.6
235	1.6
236	1.5
237	0
238	1.6
239	1.4
240	1.5

MODE / PIN NO.	LEVEL(V)
MEMORY	
IC301	
1	4.3
2	
3	3.1
4	0
5	3.2
6	2
7	
8	3.1
9	0.01
10	3.1
11	3.2
12	3.2
13	3.2
14	3.2
15	0
16	3.1
17	3.1
18	3.1
19	
20	0
21	0
22	0
23	3
24	
25	0.625
26	3.2
27	0.705
28	3.2
29	3.1
30	
31	0
32	
33	
34	
35	3.1
36	3.1
37	2.39
38	3.2
39	1.49
40	1.5
41	3.09
42	1.69
43	0
44	3.1
45	
46	3.1
47	
48	2.5
49	3.1
50	3.1
51	3.2
52	3.1
53	3.1

MODE / PIN NO.	LEVEL(V)
54	3.1
55	3.1
56	3.1
57	3.1
58	3.1
59	3.1
60	3.1
61	0.5
62	0
63	3.1
64	3.1
65	3.1
66	3.1
67	3.1
68	1.6
69	0
70	0
71	3.1
72	0
73	
74	3.1
75	0
76	3.2
77	0
78	3.1
79	0.3
80	
81	0
82	0
83	2.5
84	0
85	3.19
86	3.19
87	4.4
88	3.19
89	4.4
90	0
91	4.4
92	0
93	0
94	0
95	0
96	0
97	3.17
98	3.17
99	3.1
100	0

MODE / PIN NO.	EE	PLAY
DSP		
IC201 SP3301		
1	2.00	1.30
2	2.00	1.30
3	2.00	1.30
4	2.00	1.30
5	2.00	1.30
6	2.00	1.30
7	2.00	1.30
8	2.00	1.30
9	2.00	1.30
10	2.00	1.30
11	2.00	1.30
12	2.00	1.30
13	2.00	1.30
14	2.00	1.30
15	2.00	1.30
16	2.00	1.30
17	0.00	0.00
18	0.00	1.50
19	0.00	1.50
20	0.00	1.50
21	0.00	1.50
22	3.10	3.00
23	0.00	1.50
24	0.00	1.50
25	0.00	1.50
26	0.00	1.50
27	0.00	1.50
28	2.10	1.50
29	0.00	0.00
30	2.10	2.00
31	3.10	3.00
32	3.10	1.50
33	3.10	2.50
34	3.10	2.50
35	2.10	1.30
36	1.10	1.80
37	0.00	0.00
38	0.00	0.00
39	0.00	0.00
40	3.10	3.00
41	0.00	0.00
42	3.10	3.00
43	0.00	0.00
44	0.00	0.00
45	3.10	3.00
46	0.00	0.00
47	0.00	0.00
48	0.00	0.00
49	0.00	3.00
50	0.00	0.00
51	0.00	0.00
52	3.10	1.80
53	0.00	0.00

MODE / PIN NO.	EE	PLAY
54	3.10	3.00
55	3.10	3.00
56	0.00	0.00
57	0.00	3.13
58	5.00	4.98
59	0.00	0.00
60	0.00	0.00
61	5.00	4.98
62	0.00	0.00
63	2.10	2.10
64	0.00	0.00
65	3.10	3.00
66	0.00	0.00
67	3.10	3.12
68	0.00	0.00
69	0.00	0.20
70	0.00	0.00
71	3.10	3.10
72	0.00	0.20
73	0.00	0.00
74	3.10	3.10
75	0.00	0.00
76	0.00	0.00
77	0.00	0.00
78	0.00	2.30
79	3.10	3.10
80	5.00	5.00
81	0.00	0.00
82	5.00	5.00
83	2.10	2.00
84	2.10	2.10
85	3.10	3.10
86	1.40	1.40
87	0.00	0.00
88	2.10	2.00
89	2.10	2.00
90	0.00	0.00
91	1.50	1.55
92	3.10	3.12
93	1.60	1.55
94	1.10	1.11
95	2.00	2.00
96	1.55	1.55
97	0.00	0.00
98	1.55	1.55
99	1.56	2.15
100	3.10	3.10
101	1.55	1.58
102	1.55	1.55
103	1.62	1.64
104	1.55	1.55
105	1.50	1.50
106	0.00	0.00
107	0.00	0.00
108	0.00	0.00

MODE / PIN NO.	EE	PLAY
109	0.00	0.00
110	0.00	0.00
111	0.00	0.00
112	0.00	0.00
113	3.40	4.70
114	5.00	5.00
115	1.50	1.50
116	1.50	1.53
117	3.10	3.10
118	0.00	0.00
119	0.00	0.00
120	3.50	4.20
121	3.25	4.20
122	3.45	4.30
123	3.50	4.30
124	3.50	4.30
125	3.50	4.50
126	0.00	0.00
127	3.60	2.60
128	0.00	0.00
129	3.60	2.60
130	0.00	0.20
131	0.00	0.00
132	0.00	3.10
133	3.10	3.10
134	0.00	0.00
135	0.00	0.00
136	3.10	2.20
137	0.00	0.00
138	0.00	0.00
139	3.10	3.10
140	3.00	3.10
141	0.00	0.00
142	3.00	3.00
143	3.10	3.10
144	3.10	3.10
145	3.10	0.90
146	3.50	4.50
147	0.00	0.00
148	0.00	0.00
149	0.00	0.00
150	0.00	0.00
151	0.00	0.00
152	0.00	0.00
153	0.00	0.00
154	0.00	0.00
155	1.55	1.55
156	3.10	3.10
157	1.50	1.50
158	0.00	0.00
159	0.00	0.00
160	2.60	2.60
161	3.10	3.10
162	2.00	2.00
163	2.00	2.00

Ufqe2+

MODE / PIN NO.	EE	PLAY
164	1.40	1.40
165	3.20	0.00
166	1.60	1.75
167	0.00	0.00
168	0.00	3.10
169	0.00	3.10
170	5.00	2.50
171	0.00	2.50
172	3.10	0.00
173	3.10	3.10
174	3.10	3.10
175	3.10	3.10
176	2.53	1.30
177	4.24	4.97
178	5.00	5.00
179	2.70	0.20
180	3.26	2.30
181	3.10	2.50
182	2.40	2.50
183	3.66	2.80
184	2.40	2.50
185	0.00	0.00
186	2.26	2.00
187	3.10	3.10
188	2.20	2.40
189	1.75	1.90
190	2.20	1.80
191	1.80	1.80
192	2.20	2.20
193	1.25	1.30
194	1.00	1.10
195	5.00	5.00
196	0.00	2.25
197	0.00	1.60
198	0.00	1.50
199	0.00	1.50
200	0.00	1.50
201	0.00	1.50
202	0.00	1.50
203	0.00	1.50
204	0.00	1.50
205	3.10	2.60
206	1.50	1.50
207	3.10	3.10
208	3.10	3.10
S E R V O		
IC2A1 33P3721		
1	3.44	3.38
2	3.12	3.40
3	2.50	2.50
4	2.51	2.53
5	3.50	3.44
6	3.46	3.44
7	3.47	3.45
8	3.47	3.44

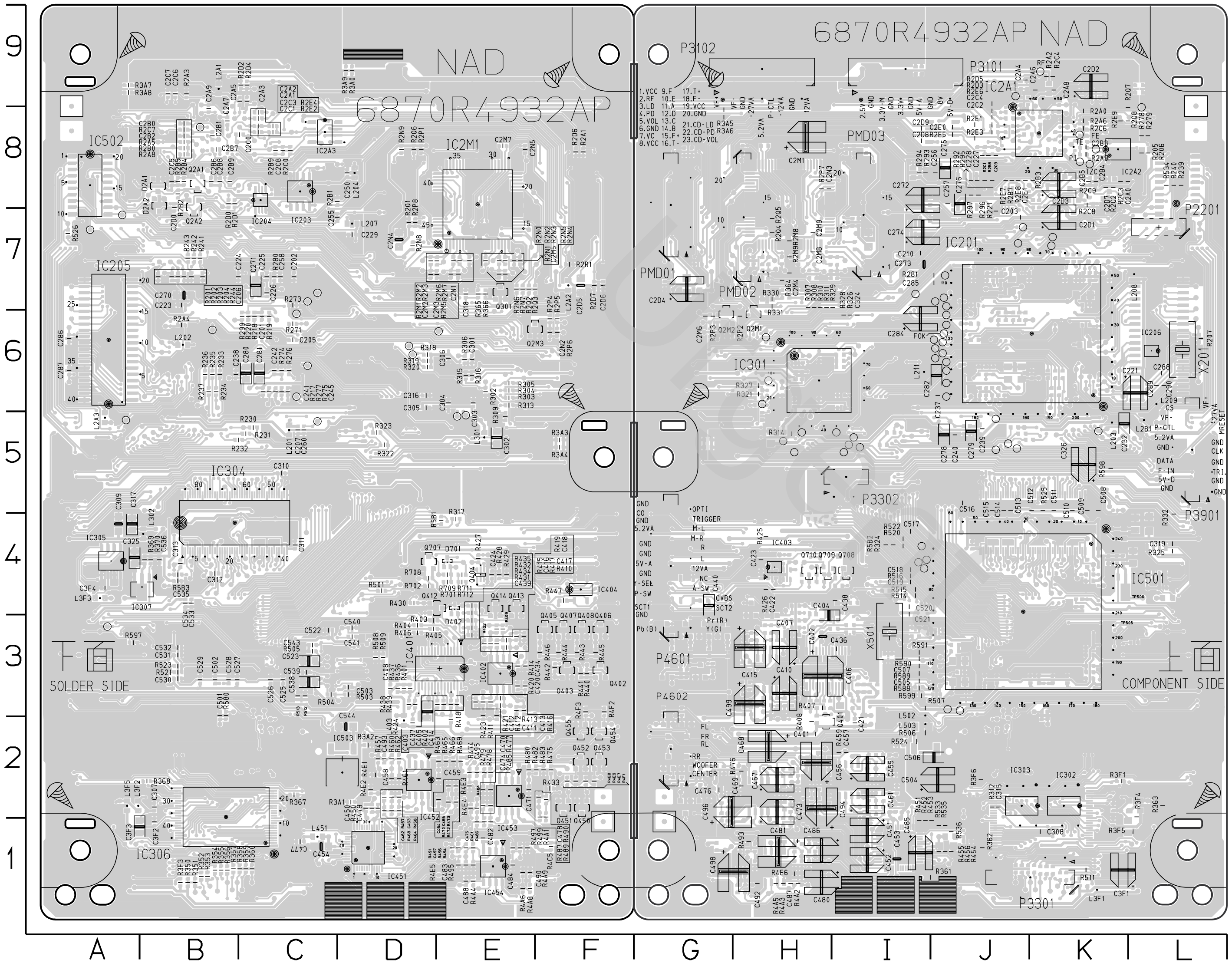
MODE / PIN NO.	EE	PLAY
9	3.48	3.44
10	3.43	3.41
11	2.52	2.70
12	2.52	2.70
13	2.52	2.60
14	2.52	2.60
15	2.56	2.70
16	2.48	2.50
17	2.98	3.30
18	0.00	0.00
19	4.50	4.58
20	0.00	0.00
21	0.00	0.20
22	4.96	3.85
23	0.00	0.00
24	4.95	4.92
25	5.00	0.00
26	2.52	2.50
27	1.55	1.55
28	4.97	4.93
29	0.00	0.40
30	2.55	2.63
31	2.51	2.56
32	4.90	4.65
33	0.00	0.20
34	0.00	2.60
35	0.00	2.50
36	1.56	2.15
37	3.58	0.00
38	2.62	3.20
39	0.00	2.60
40	2.50	2.60
41	1.55	1.60
42	1.46	1.65
43	1.58	1.64
44	2.52	2.50
45	4.92	4.97
46	4.99	5.00
47	0.00	0.00
48	0.00	0.00
49	3.59	0.00
50	0.00	0.00
51	2.35	0.00
52	2.37	2.30
53	3.51	3.47
54	3.51	3.46
55	0.61	0.00
56	1.67	2.42
57	2.95	2.88
58	4.98	4.93
59	3.48	3.40
60	3.48	3.40
61	3.71	3.70
62	3.75	3.70
63	0.27	0.36

MODE / PIN NO.	EE	PLAY
64	2.40	0.90

Urgent

PRINTED CIRCUIT DIAGRAMS

1. MAIN P.C.BOARD

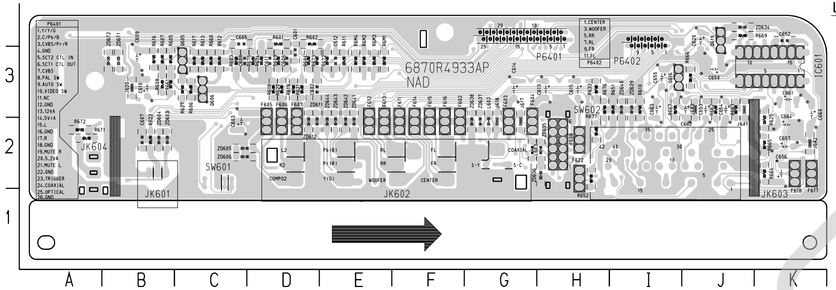


LOCATION GUIDE

C201	C6	C302	E5	C501	B3	L3F5	A2	R2A8	B8	R322	D5	R433	F2	R4C1	E1
C202	C7	C303	E6	C502	B3	L403	D2	R2B0	B8	R323	D5	R434	E3	R4C5	F1
C205	C6	C304	E6	C503	D3	L451	C1	R2B1	D8	R350	B1	R435	E4	R4E1	D2
C206	B7	C305	D6	C522	C3	Q2A1	B8	R2B2	B8	R351	B1	R436	D3	R4E2	D2
C207	C5	C306	E6	C523	C3	Q2A2	B8	R2B4	B8	R352	B1	R437	D3	R4E3	E2
C223	B7	C307	B2	C525	C3	Q2M3	F6	R2B5	B8	R353	B1	R438	D3	R4E4	E2
C224	C7	C309	A4	C526	C3	Q301	E7	R2B9	C8	R354	B1	R439	D3	R4E5	E1
C225	C7	C310	C5	C527	B3	Q402	F3	R2C0	C8	R355	B1	R440	F3	R4E7	F2
C226	C7	C311	C4	C528	B3	Q403	F3	R2C7	B8	R356	B1	R441	F3	R4E8	F2
C229	D7	C312	B4	C529	B3	Q404	E4	R2D0	B8	R357	B1	R442	F3	R4E9	F2
C238	B6	C313	B4	C530	B3	Q405	F3	R2D1	B8	R358	C1	R443	F3	R4F1	F2
C241	C6	C316	D6	C531	B3	Q406	F3	R2D2	C9	R359	C1	R444	F3	R4F2	F3
C242	C6	C317	A4	C532	B3	Q407	F3	R2D4	C9	R360	C1	R445	F3	R4F3	F3
C245	C6	C318	E7	C533	B4	Q408	F3	R2D6	F8	R365	E7	R446	F3	R501	D4
C250	D8	C325	A4	C534	B4	Q412	E4	R2D7	F7	R366	E7	R447	F4	R503	D3
C255	D7	C3F2	B1	C535	B4	Q413	E4	R2E2	C8	R367	C2	R450	D2	R504	C3
C258	C7	C3F3	B1	C536	B4	Q414	E4	R2E4	C8	R368	B2	R457	D2	R505	C3
C260	C5	C3F4	A4	C538	C3	Q450	F2	R2M1	D7	R369	B4	R458	D2	R508	D3
C270	B7	C403	D3	C539	C3	Q451	F2	R2M2	D7	R370	B4	R460	D2	R509	D3
C271	C7	C405	E3	C540	D3	Q452	F2	R2M3	E7	R3A0	D9	R461	D2	R512	C3
C280	C6	C408	D3	C541	D3	Q453	F2	R2M5	E7	R3A1	D2	R462	D2	R513	C3
C281	C6	C411	E3	C543	C3	Q454	F2	R2M6	E7	R3A2	D2	R463	E2	R521	B3
C286	A6	C412	E3	C544	D2	Q455	F2	R2M7	E7	R3A3	F5	R464	D2	R523	B3
C287	A6	C413	E3	D2A1	B8	Q707	D4	R2N0	E7	R3A4	F5	R465	E2	R526	A7
C2A1	C8	C414	E3	D2A2	B8	R201	B7	R2N1	E7	R3A7	A9	R466	E2	R580	B3
C2A2	C8	C416	E3	D402	E4	R202	B7	R2N2	E7	R3A8	A9	R467	D2	R597	A3
C2A3	C9	C417	E3	D701	E4	R203	B7	R2N3	E7	R3A9	D9	R468	D2	R5B1	E4
C2A5	C9	C418	E3	IC203	C8	R204	B7	R2N4	E7	R3F3	B1	R469	E2	R5B3	B4
C2A7	B8	C420	E3	IC204	C8	R217	C6	R2N5	E7	R401	D3	R470	E2	R701	E4
C2A9	B8	C424	E4	IC205	A6	R218	C6	R2N6	E7	R402	E3	R472	E2	R702	D4
C2B0	B8	C434	E3	IC2A3	C8	R219	C6	R2N7	E7	R403	D3	R473	E2	R708	D4
C2B1	B8	C437	E3	IC2M1	E8	R220	C6	R2N8	D7	R404	D3	R474	E2	R709	E4
C2B2	B8	C439	E3	IC304	B4	R230	C5	R2N9	D8	R405	D3	R475	F2	R711	E4
C2B6	B8	C450	D2	IC305	A4	R231	C5	R2P1	D8	R406	D3	R477	E2	R712	E4
C2B7	B8	C454	C1	IC306	B2	R232	C5	R2P4	F6	R409	E3	R478	E2	TP206	A3
C2B8	B8	C458	D2	IC307	B4	R233	B6	R2P5	F6	R410	E3	R479	E2	TP207	C6
C2B9	B8	C459	E2	IC401	E3	R234	B6	R2P6	F6	R411	E3	R480	E2	TP208	C5
C2C0	C8	C462	D2	IC402	E3	R235	B6	R2P8	D7	R412	E3	R482	F2	TP212	C6
C2C1	C8	C463	D2	IC404	F4	R236	B6	R2Q1	D7	R413	E3	R483	F2	TP218	B6
C2C3	C8	C464	E2	IC451	D1	R237	B6	R2Q2	E7	R414	E3	R484	E2	TP221	E6
C2C5	B8	C465	E2	IC452	D2	R241	B7	R2Q3	F7	R415	E3	R485	E2	TP231	C6
C2C6	B9	C470	E2	IC453	E2	R242	B7	R2Q6	D8	R416	E3	R486	E1	TP235	A5
C2C7	B9	C471	E2	IC454	E1	R243	B7	R2R1	F7	R417	E3	R487	F2	TP242	C7
C2C8	C8	C474	E2	IC502	A8	R244	B7	R302	E6	R418	E2	R489	F2	TP244	C7
C2D0	B8	C475	E1	IC503	D2	R271	C6	R303	E6	R419	E3	R490	E1	TP2A1	B8
C2D5	F7	C477	C1	L201	C5	R273	C7	R304	E6	R420	E3	R491	E1	TP359	E5
C2D6	F7	C478	F2	L202	B6	R274	C6	R305	E6	R421	E3	R494	E1	TP360	D6
C2M2	E7	C479	D2	L204	D8	R275	C6	R306	E6	R422	E3	R495	E1	TP361	D6
C2M3	E7	C482	E1	L207	D7	R276	C6	R309	E5	R423	E3	R496	E1	TP362	E5
C2M5	E7	C483	E1	L2A1	B9	R277	C6	R313	E6	R424	D2	R497	E1	TP515	A7
C2M7	E8	C484	E1	L2A2	F7	R280	C7	R315	E6	R427	E4	R499	E1	TP516	A7
C2N1	E7	C488	E1	L2A3	A5	R299	C6	R316	E6	R428	E4	R4A1	E1		
C2N2	F6	C490	E1	L301	E5	R2A1	F8	R317	E4	R429	E4	R4A4	E1		
C2N4	D7	C493	D2	L302	B4	R2A3	B9	R318	D6	R430	D4	R4A6	E1		
C2N5	E8	C495	E2	L3F2	A2	R2A4	B6	R319	D6	R431	E3	R4A8	E1		
C301	E6	C497	E1	L3F3	A4	R2A5	B8	R320	D6	R432	E4	R4A9	E1		

C203	J7	C415	H3	L3F1	K1	R2P3	G6	R535	J1	TP319	K2
C210	I7	C421	I2	L502	I3	R2P7	H8	R536	J1	TP320	K2
C221	L6	C422	H4	L503	I2	R2Q4	H7	R588	I3	TP321	J1
C227	J8	C423	H4	P2201	L7	R2Q5	H7	R589	I3	TP322	J1
C228	J8	C436	I3	P3101	I9	R2Q7	L8	R590	I3	TP323	J1
C232	K5	C438	I4	P3102	H9	R2Q8	L8	R591	I3	TP324	J1
C237	J6	C440	G4	P3301	K1	R307	H7	R598	K5	TP325	J1
C239	J5	C451	I1	P3302	I5	R308	H7	R599	I3	TP326	J1
C240	J5	C452	I1	P3901	L5	R310	H7	R5B2	I4	TP327	K1
C256	J8	C453	I1	P4601	G4	R311	H7	TP201	K5	TP328	K1
C257	I8	C455	I2	P4602	G2	R312	J2	TP202	J5	TP329	K1
C272	I8	C456	H2	PMD01	G8	R314	H5	TP203	J5	TP330	K1
C273	I7	C457	I2	PMD02	H7	R321	H6	TP204	J5	TP331	K1
C274	I7	C461	I2	PMD03	I7	R324	I4	TP205	J5	TP332	J1
C275	J8	C467	H2	Q2M1	H6	R325	L4	TP209	J6	TP333	J1
C276	J8	C468	H2	Q2M2	G6	R326	I6	TP210	J6	TP334	J1
C278	J5	C469	H2	Q401	H2	R327	H6	TP211	J6	TP335	J2
C279	J5	C473	H2	Q708	I4	R328	I6	TP213	J6	TP336	J2
C282	J6	C476	G2	Q709	H4	R329	I7	TP214	J6	TP337	K1
C284	I6	C480	H1	Q710	H4	R330	H7	TP215	J6	TP338	K1
C285	J7	C481	H1	R205	L8	R331	H7	TP216	J6	TP339	K2
C288	L6	C485	I1	R206	L8	R332	L4	TP219	H6	TP340	K2
C289	L6	C486	H1	R207	L6	R361	J1	TP220	J6	TP341	K2
C290	L8	C487	H1	R221	J7	R362	J1	TP222	K7	TP342	K2
C2A0	L8	C492	H1	R239	L8	R363	L2	TP223	K8	TP343	K2
C2A4	J9	C494	H2	R240	L8	R364	H7	TP224	K8	TP344	H5
C2A6	K9	C496	G2	R278	L8	R3A5	G8	TP225	J6	TP345	L2
C2A8	K9	C498	H1	R279	L8	R3A6	G8	TP226	J6	TP346	J2
C2B3	K8	C499	H3	R281	J7	R3F1	K2	TP228	J6	TP349	I5
C2B4	K8	C504	J2	R292	J8	R3F4	L2	TP229	J7	TP350	I5
C2B5	K8	C505	I3	R293	I8	R3F5	L1	TP230	J7	TP351	I5
C2C2	J8	C506	J2	R294	I8	R3F6	J2	TP232	J7	TP352	I5
C2C4	J8	C507	I3	R295	J8	R407	H3	TP233	J7	TP353	H6
C2C9	J8	C508	K5	R296	J8	R408	H2	TP234	J7	TP354	I5
C2D1	K7	C509	K5	R297	J8	R425	H4	TP239	K7	TP355	H6
C2D2	K9	C510	K5	R2A0	K8	R426	H4	TP241	J6	TP356	H5
C2D3	K8	C511	K5	R2A2	K9	R451	I1	TP243	J7	TP357	H5
C2D4	G7	C512	K5	R2A6	K8	R452	I1	TP245	J7	TP358	H5
C2D7	K8	C513	J5	R2A9	K8	R453	J1	TP2A2	L8	TP363	K1
C2D8	I8	C514	J5	R2B3	K8	R454	J1	TP2A3	K8	TP3A1	K2
C2D9	I8	C515	J5	R2B7	J8	R455	J1	TP2A4	J9	TP3A2	L2
C2E0	J8	C516	J5	R2B8	J8	R456	J1	TP2A6	K9	TP3A3	L2
C2E1	J8	C517	I4	R2C1	K8	R459	I2	TP2A8	K9	TP3A4	L2
C2M1	H8	C518	I4	R2C2	K8	R476	H2	TP301	L1	TP3A5	L2
C2M4	H7	C519	I4	R2C3	K8	R493	H1	TP302	K2	TP3A6	L2
C2M6	G6	C520	I4	R2C4	K9	R4A2	H1	TP303	J2	TP3A7	L2
C2M8	H7	C521	I3	R2C6	K8	R4A3	H1	TP304	K1	TP501	I4
C2M9	H7	IC201	K6	R2C8	K8	R4A5	H1	TP305	K2	TP502	I4
C2N3	H8	IC206	L6	R2C9	K8	R4E6	H1	TP306	K1	TP503	I4
C308	K1	IC2A1	K8	R2D3	J8	R506	I2	TP307	K2	TP504	I4
C315	J2	IC2A2	K8	R2D5	J9	R507	I3	TP308	K1	TP505	L3
C319	L4	IC301	H6	R2E1	J8	R511	K1	TP309	K2	TP506	L4
C324	I6	IC302	K2	R2E3	J8	R514	I4	TP310	K1	TP513	J3
C326	K5	IC303	J2	R2E5	J8	R515	I4	TP311	K2	TP514	J3
C3F1	K1	IC403	H4	R2E6	J8	R516	I4	TP312	K2	TP517	J2
C401	H2	IC501	J4	R2E7	J8	R520	I4	TP313	K2	X201	L6
C402	H3	L203	K5	R2E8	J8	R522	I4	TP314	K2	X501	I3
C404	H3	L208	L7	R2E9	K8	R524	I2	TP315	K2		
C406	H3	L209	L6	R2M8	H7	R525	K5	TP316	K2		
C407	H3	L211	I6	R2M9	H7	R533	J1	TP317	K2		
C410	H3	L2B1	L5	R2P2	H6	R534	L8	TP318	K2		

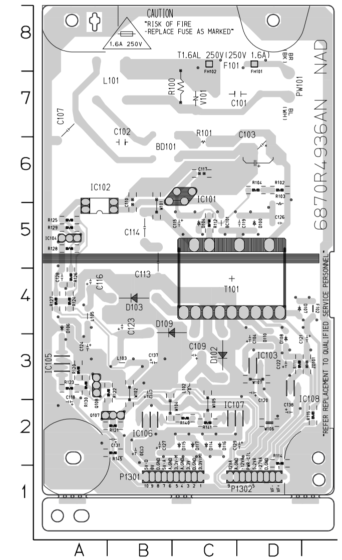
2. AV JACK P.C.BOARD



LOCATION GUIDE

C601	D3	IC601	K3	R652	H2
C602	D3	J617	G2	R660	C3
C603	C2	J618	G2	R661	B3
C605	C4	J630	B3	R662	J3
C606	D3	J6A1	J3	R663	J3
C607	B2	J6A2	K2	R664	K2
C608	C3	J6A3	J3	R665	K2
C609	B3	JK601	B2	R666	J3
C610	B3	JK602	F2	R667	I3
C611	D3	JK603	J2	R669	J4
C612	E3	JK604	A2	R672	E3
C613	H3	L602	G2	R673	D3
C614	G3	L603	G2	R674	D3
C615	H3	P6401	H4	R675	D3
C620	J4	P6402	I4	R676	H3
C650	J3	Q605	C3	R677	H2
C652	K4	Q606	C3	R6M1	E3
C653	J3	Q616	I3	R6M2	E3
C654	J3	Q619	J4	R6M3	E3
C655	I3	R601	D4	R6M4	E3
C656	K2	R602	D4	R6T1	A2
C657	K2	R603	C3	R6T2	A2
C660	K3	R604	D3	SW601	C2
C661	K3	R605	B3	SW602	H2
C662	J3	R606	C3	ZD603	B2
C663	I3	R607	B3	ZD604	B2
C664	K2	R608	B3	ZD605	C2
F602	F2	R609	D3	ZD606	C2
F603	G2	R610	I3	ZD611	D2
F604	G2	R611	E3	ZD612	D2
F605	D2	R612	C3	ZD634	J4
F606	D2	R613	C3	ZD635	H2
F607	D2	R616	B3	ZD636	H2
F608	H2	R617	C3	ZD637	G2
F611	F2	R618	D3	ZD638	G2
F612	E2	R619	D3	ZD639	I3
F613	E2	R620	D3	ZD640	I3
F614	F2	R621	D3	ZD641	E2
F615	F2	R622	B2	ZD642	E2
F616	F2	R625	K2	ZD643	E2
F617	K2	R627	C3	ZD644	E2
F618	K2	R633	H3	ZD6T1	B3
F622	H2	R651	I3	ZD6T2	B3

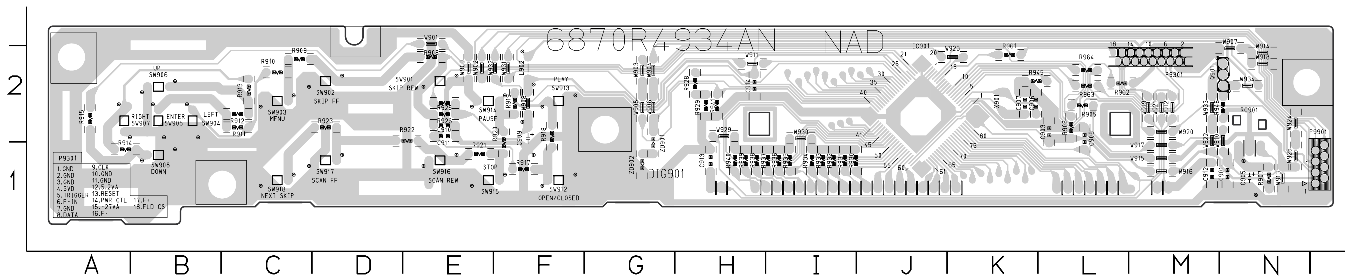
3. SMPS P.C.BOARD

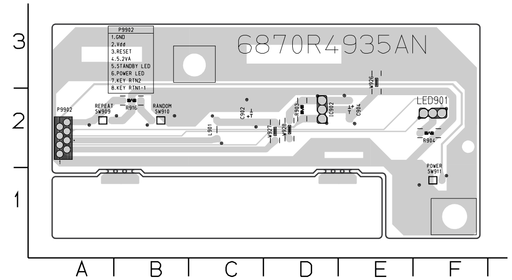


LOCATION GUIDE

BC101	C5	FH102	C8
BD101	B6	IC101	C6
C101	D7	IC102	A5
C102	B6	IC103	D3
C103	D6	IC104	A5
C104	D3	IC105	A3
C107	A7	IC106	B2
C109	C3	IC107	D2
C110	B6	IC108	D3
C112	B3	L101	B7
C113	B5	L102	C3
C114	B5	L103	B3
C115	C5	L105	A4
C116	A4	P1301	C1
C117	C6	P1302	D1
C118	A2	PW101	D7
C119	D5	Q107	B2
C120	D3	Q108	A3
C121	E3	R100	C7
C122	D3	R101	C6
C123	B4	R102	D6
C124	A3	R103	D5
C126	D5	R104	D6
C127	B2	R111	D3
C128	A4	R112	C5
C129	D2	R114	D2
C130	B2	R115	E2
C131	B2	R120	A3
C137	B3	R121	B2
C138	D2	R122	B3
D100	D5	R123	A3
D102	C3	R124	A4
D103	B4	R125	A5
D104	C5	R126	A4
D106	A4	R127	A4
D107	D4	R128	A5
D108	D3	R129	A5
D109	B4	R130	A3
D110	D3	R140	C2
D114	C2	R141	C2
D115	C2	R145	B2
D116	C2	T101	C4
D117	C2	V101	C7
F102	E4	ZD101	E3
FH101	D8		

4. FRONT P.C.BOARD



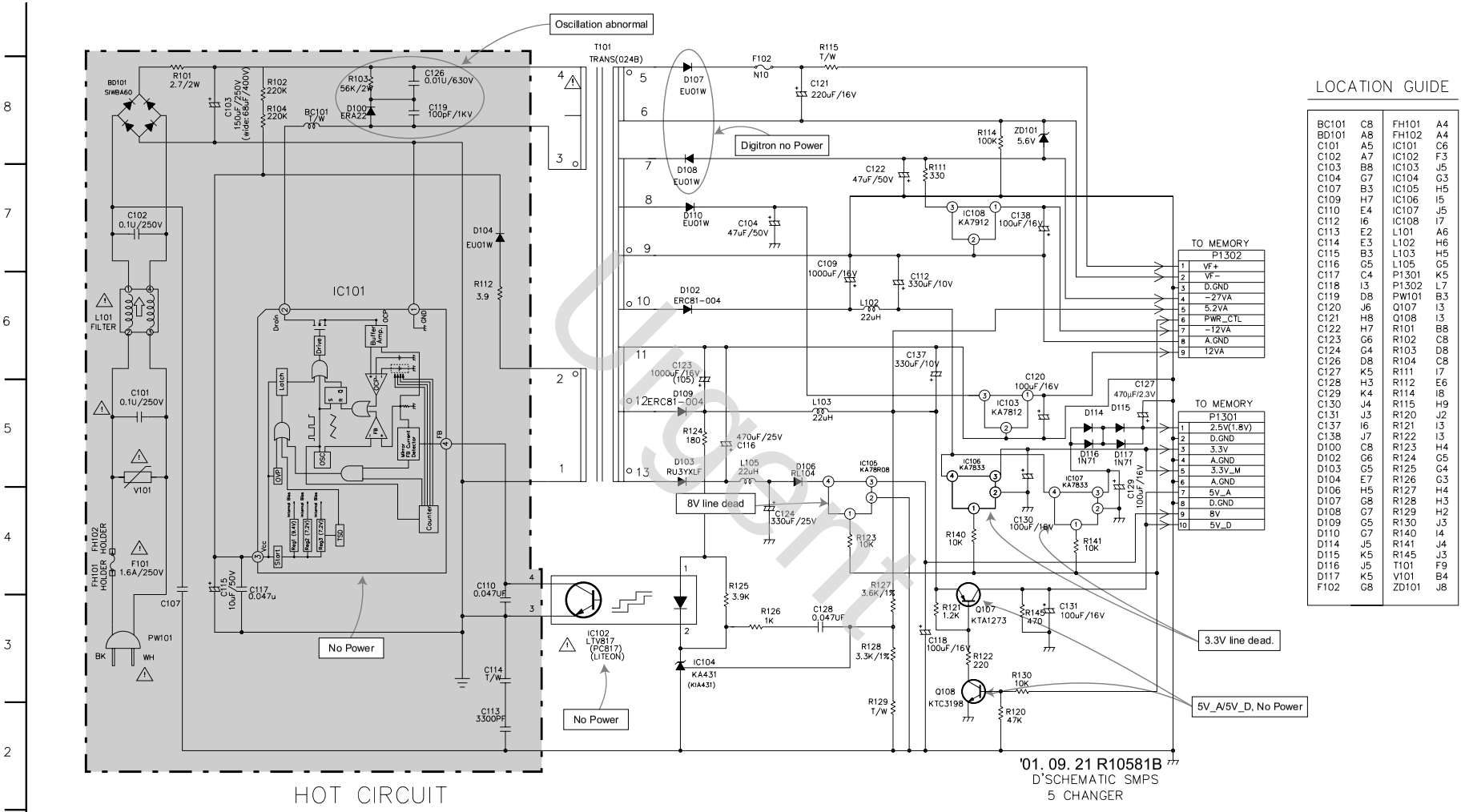


Urgent

CIRCUIT DIAGRAM

1. POWER(SMPS) CIRCUIT DIAGRAM

NOTE :
1. Shaded(▥) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during Play mode.



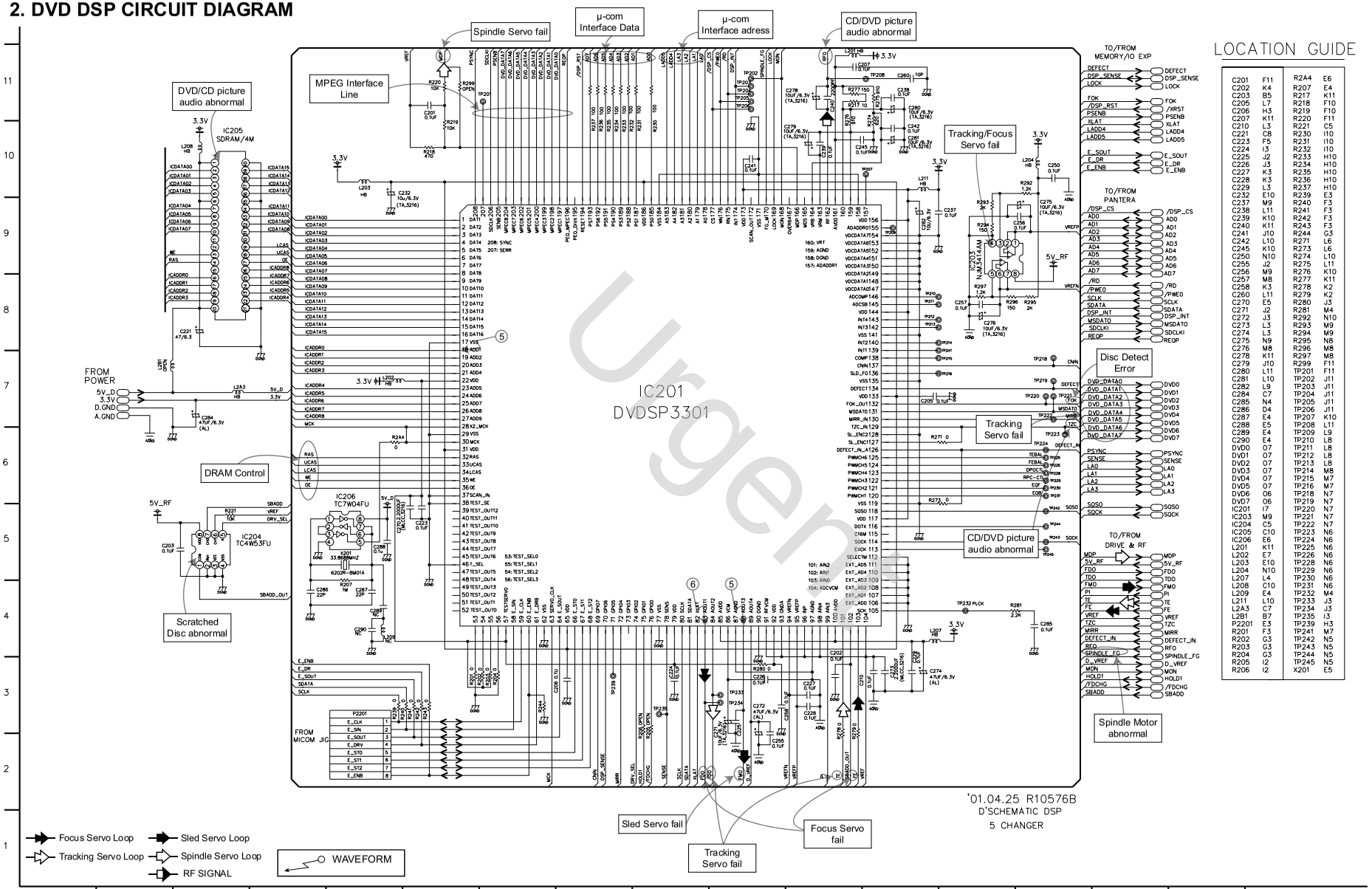
LOCATION GUIDE

BC101	C8	FH101	A4
BD101	A8	FH102	A4
C101	A5	IC101	C6
C102	A7	IC102	F3
C103	B8	IC103	J5
C104	G7	IC104	G3
C107	B3	IC105	H5
C109	H7	IC106	I5
C110	E4	IC107	J5
C112	I6	IC108	I7
C113	E2	L101	A6
C114	E3	L102	H6
C115	B3	L103	H5
C116	C5	L105	G5
C117	C4	P1301	K5
C118	I3	P1302	L7
C119	D8	PW101	B3
C120	J6	Q107	I3
C121	H8	Q108	I3
C122	H7	R101	B8
C123	G6	R102	C8
C124	G4	R103	D8
C126	D8	R104	C8
C127	K5	R111	I7
C128	H3	R112	E6
C129	K4	R114	I8
C130	J4	R115	H9
C131	J3	R120	J2
C137	I6	R121	I3
C138	J7	R122	I3
D100	C8	R123	H4
D102	G6	R124	G5
D103	G5	R125	G4
D104	E7	R126	G3
D106	H5	R127	H4
D107	G8	R128	H3
D108	C7	R129	H2
D109	G5	R130	J3
D110	C7	R140	I4
D114	J5	R141	J4
D115	K5	R145	J3
D116	J5	T101	F9
D117	K5	V101	B4
F102	G8	ZD101	J8

NOTES) ⚠ Warning
Parts that are shaded are critical
With respect to risk of fire or
electricial shock.

USER

2. DVD DSP CIRCUIT DIAGRAM

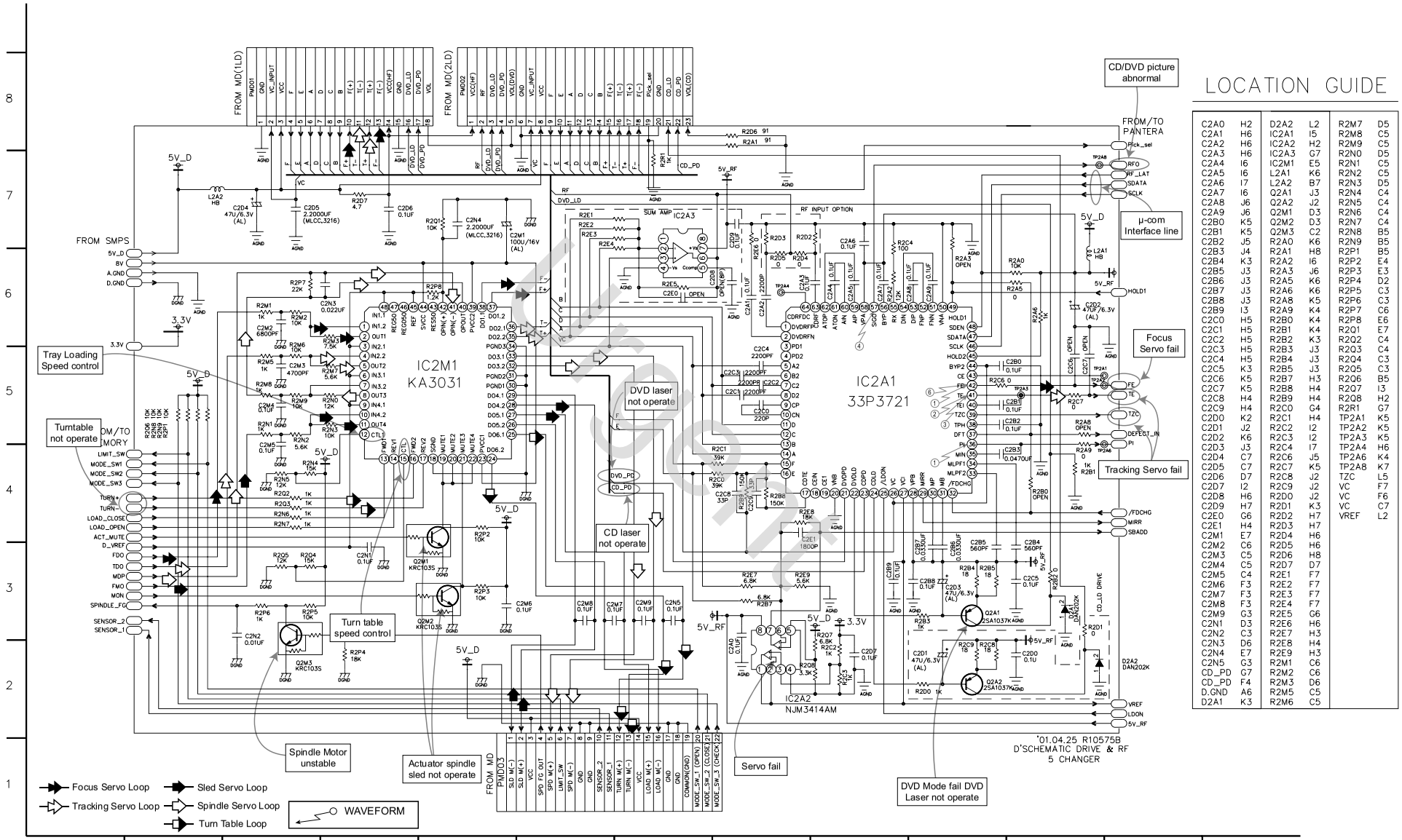


Focus Servo Loop
Tracking Servo Loop
Sled Servo Loop
Spindle Servo Loop
RF SIGNAL
WAVEFORM

LOCATION GUIDE

C201	F11	R2A4	E6
C202	K4	R207	E4
C203	B5	R217	K11
C205	L7	R218	F10
C206	H3	R219	F10
C207	K11	R220	F11
C210	L3	R221	C5
C221	C8	R230	I10
C223	F5	R231	I10
C224	I3	R232	I10
C225	J2	R233	H10
C226	J3	R234	H10
C227	K3	R235	H10
C228	K3	R236	H10
C229	L3	R237	H10
C232	E10	R239	E3
C237	M9	R240	F3
C238	L11	R241	F3
C239	K10	R242	F3
C240	K11	R243	F3
C241	J10	R244	G3
C242	L10	R271	L6
C245	K10	R273	L6
C250	N10	R274	L10
C255	J2	R275	L11
C256	M9	R276	K10
C257	M8	R277	K11
C258	K3	R278	K2
C260	L11	R279	K2
C270	E5	R280	J3
C271	J2	R281	M4
C272	J3	R292	N10
C273	L3	R293	M9
C274	L3	R294	M9
C275	N9	R295	N8
C276	M8	R296	M8
C278	K11	R297	M8
C279	J10	R299	F11
C280	L11	TP201	F11
C281	L10	TP202	J11
C282	L9	TP203	J11
C284	C7	TP204	J11
C285	N4	TP205	J11
C286	D4	TP206	J11
C287	E4	TP207	K10
C288	E5	TP208	L11
C289	E4	TP209	L9
C290	E4	TP210	L8
DVD0	O7	TP211	L8
DVD1	O7	TP212	L8
DVD2	O7	TP213	L8
DVD3	O7	TP214	M8
DVD4	O7	TP215	M7
DVD5	O7	TP216	M7
DVD6	O6	TP218	N7
DVD7	O6	TP219	N7
IC201	I7	TP220	N7
IC203	M9	TP221	N7
IC204	C5	TP222	N7
IC205	C10	TP223	N6
IC206	E6	TP224	N6
L201	K11	TP225	N6
L202	E7	TP226	N6
L203	E10	TP228	N6
L204	N10	TP229	N6
L207	L4	TP230	N6
L208	C10	TP231	N6
L209	E4	TP232	M4
L211	L10	TP233	J3
L2A3	C7	TP234	J3
L281	B7	TP235	I3
P2201	E3	TP239	H3
R201	F3	TP241	M7
R202	G3	TP242	N5
R203	G3	TP243	N5
R204	G3	TP244	N5
R205	I2	TP245	N5
R206	I2	X201	E5

3. DRIVE & RF CIRCUIT DIAGRAM

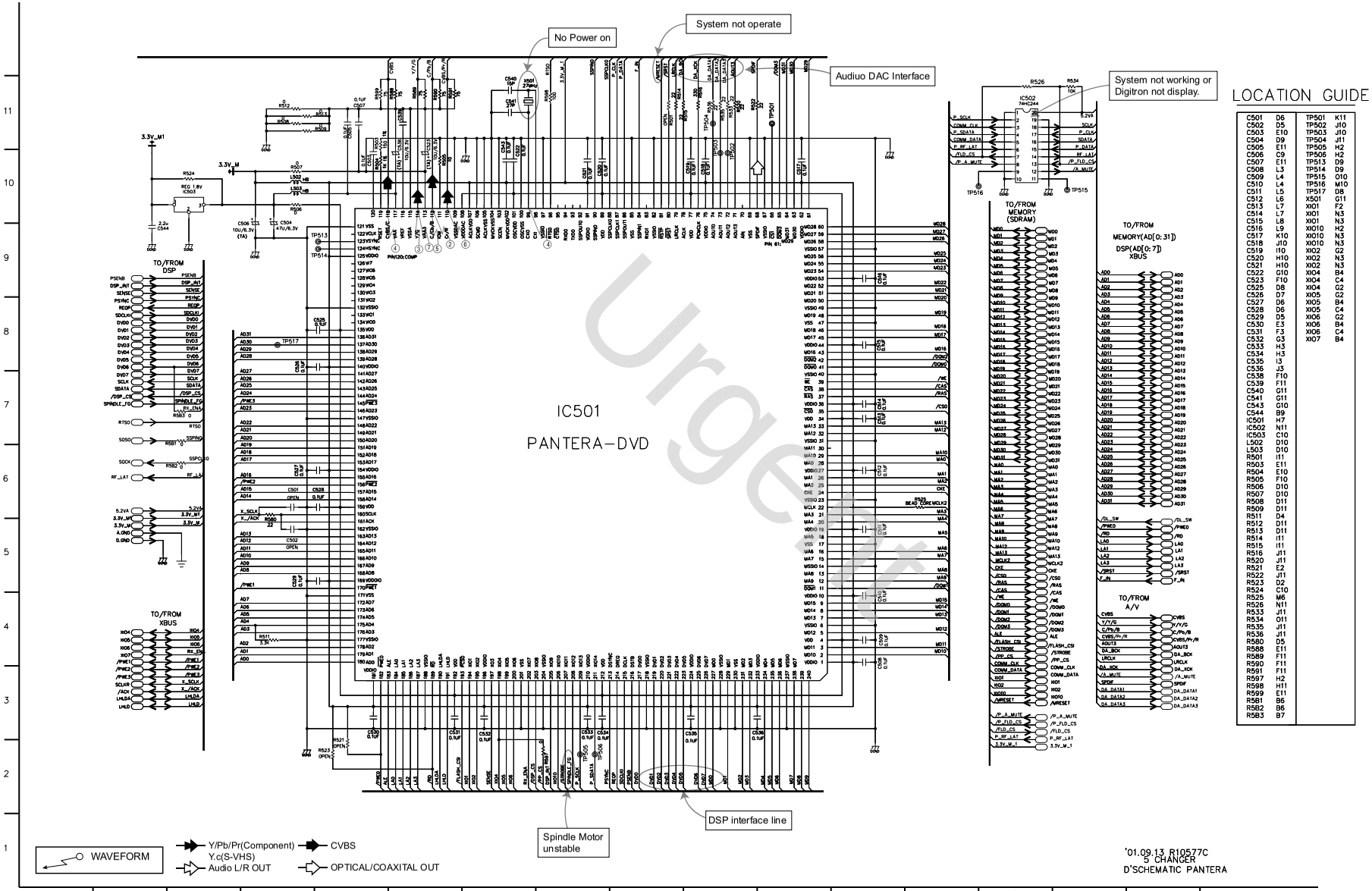


LOCATION GUIDE

C2A0	H2	D2A2	L2	R2M7	D5
C2A1	H6	IC2A1	I5	R2M8	C5
C2A2	H6	IC2A2	H2	R2M9	C5
C2A3	H6	IC2A3	G7	R2N0	D5
C2A4	I6	IC2M1	E5	R2N1	C5
C2A5	I6	L2A1	K6	R2N2	C5
C2A6	I7	L2A2	B7	R2N3	D5
C2A7	I6	Q2A1	J3	R2N4	C4
C2A8	J6	Q2A2	J2	R2N5	C4
C2A9	J6	Q2M1	D3	R2N6	C4
C2B0	K5	Q2M2	D3	R2N7	C4
C2B1	K5	Q2M3	C2	R2N8	B5
C2B2	J5	R2A0	K6	R2N9	B5
C2B3	J4	R2A1	H8	R2P1	B5
C2B4	K3	R2A2	I6	R2P2	E4
C2B5	J3	R2A3	J6	R2P3	E3
C2B6	J3	R2A5	K6	R2P4	D2
C2B7	J3	R2A6	K6	R2P5	C3
C2B8	J3	R2A8	K5	R2P6	C3
C2B9	I3	R2A9	K4	R2P7	C6
C2C0	H5	R2B0	K4	R2P8	E6
C2C1	H5	R2B1	K4	R2Q1	E7
C2C2	H5	R2B2	K3	R2Q2	C4
C2C3	H5	R2B3	J3	R2Q3	C4
C2C4	H5	R2B4	J3	R2Q4	C3
C2C5	K3	R2B5	J3	R2Q5	C3
C2C6	K5	R2B7	H3	R2Q6	B5
C2C7	K5	R2B8	H4	R2Q7	I3
C2C8	H4	R2B9	H4	R2Q8	H2
C2C9	H4	R2C0	G4	R2R1	G7
C2D0	K2	R2C1	H4	TP2A1	K5
C2D1	J2	R2C2	I2	TP2A2	K5
C2D2	K6	R2C3	I2	TP2A3	K5
C2D3	J3	R2C4	I7	TP2A4	H6
C2D4	C7	R2C6	J5	TP2A6	K4
C2D5	C7	R2C7	K5	TP2A8	K7
C2D6	D7	R2C8	J2	TZC	L5
C2D7	I2	R2C9	J2	VC	F7
C2D8	H6	R2D0	J2	VC	F6
C2D9	H7	R2D1	K3	VC	C7
C2E0	G6	R2D2	H7	VREF	L2
C2E1	H4	R2D3	H7		
C2M1	E7	R2D4	H6		
C2M2	C6	R2D5	H6		
C2M3	C5	R2D6	H8		
C2M4	C5	R2D7	D7		
C2M5	C4	R2E1	F7		
C2M6	F3	R2E2	F7		
C2M7	F3	R2E3	F7		
C2M8	F3	R2E4	F7		
C2M9	G3	R2E5	G6		
C2N1	D3	R2E6	H6		
C2N2	C3	R2E7	H3		
C2N3	D6	R2E8	H4		
C2N4	E7	R2E9	H3		
C2N5	G3	R2M1	C6		
CD_PD	G7	R2M2	C6		
CD_PD	F4	R2M3	D6		
D.GND	A6	R2M5	C5		
D2A1	K3	R2M6	C5		

For Service

4. PANTERA CIRCUIT DIAGRAM

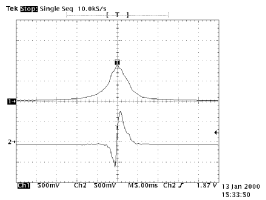


C501	D6	TP501	K11
C502	D5	TP502	J10
C503	E10	TP503	J10
C504	D9	TP504	J11
C505	E11	TP505	H2
C506	C9	TP506	H2
C507	E11	TP513	D9
C508	L3	TP514	D9
C509	L4	TP515	O10
C510	L4	TP516	M10
C511	L5	TP517	D8
C512	L6	X501	G11
C513	L7	XI01	F2
C514	L7	XI01	N3
C515	L8	XI01	N3
C516	L9	XI010	H2
C517	K10	XI010	N3
C518	J10	XI010	N3
C519	I10	XI02	G2
C520	H10	XI02	N3
C521	H10	XI02	N3
C522	G10	XI04	B4
C523	F10	XI04	C4
C525	D8	XI04	G2
C526	D7	XI05	G2
C527	D6	XI05	B4
C528	D6	XI05	C4
C529	D5	XI06	G2
C530	E3	XI06	B4
C531	F3	XI06	C4
C532	G3	XI07	B4
C533	H3		
C534	H3		
C535	I3		
C536	J3		
C538	F10		
C539	F11		
C540	G11		
C541	G11		
C543	D10		
C544	B9		
IC501	H7		
IC502	N11		
IC503	C10		
L502	D10		
L503	D10		
R501	I11		
R503	E11		
R504	E10		
R505	F10		
R506	D10		
R507	D10		
R508	D11		
R509	D11		
R511	D4		
R512	D11		
R513	D11		
R514	I11		
R515	I11		
R516	J11		
R520	J11		
R521	E2		
R522	J11		
R523	D2		
R524	C10		
R525	M6		
R526	N11		
R533	J11		
R534	O11		
R535	J11		
R536	J11		
R580	D5		
R588	E11		
R589	F11		
R590	F11		
R591	F11		
R597	H2		
R598	H11		
R599	E11		
R581	B6		
R582	B6		
R583	B7		

Urgent

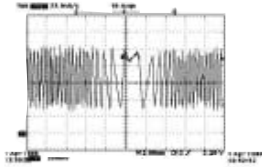
• WAVEFORMS

①



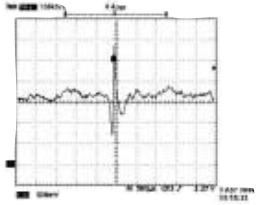
IC2A1 Pin 42, Focus Error
IC2A1 Pin 36, Pi

②



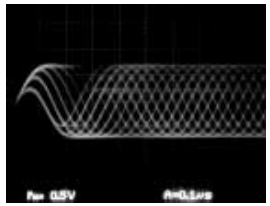
IC2A1 Pin 41
Tracking Error

③



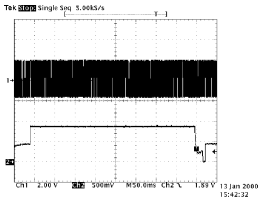
IC2A1 Pin 41
VBR TRACKING Error

④



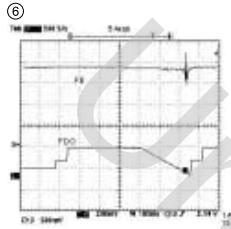
IC2A1 Pin 57,
RF

⑤



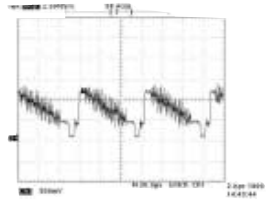
IC201 Pin 88, SLED Drive(FMO)
IC201 Pin 18, SLED FG

⑥



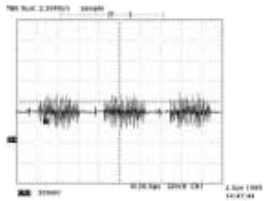
IC2A1 Pin42, Focus Error(in Focus Search)
IC201 Pin 83, Focus Drive(FDO)

①



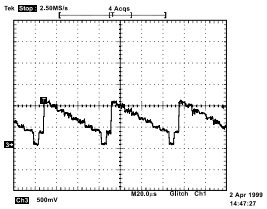
IC501 Pin 118, Composite

②



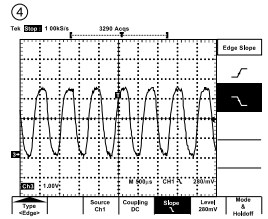
IC501 Pin 112, Chrominance
(Super video out Mode)

③



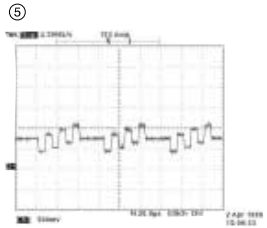
IC501 Pin 114, Luminance
(Super video out Mode)

④



IC501 Pin 99,
PANTER MAIN

⑤

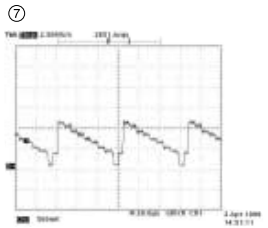


IC501 Pin 112
Component Pb

⑥

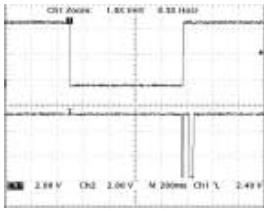
IC501 Pin 110
Component Pr

⑦



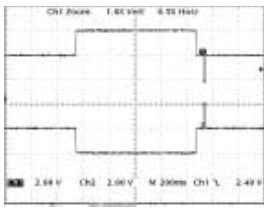
IC501 Pin 114
Component Y

①



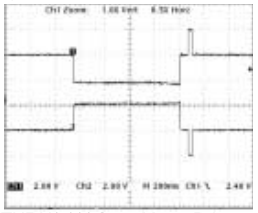
TURN(+)(-) Signal from µ-com

②



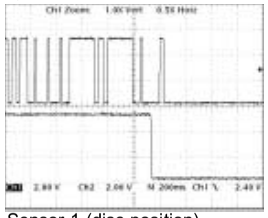
TURN(+)(-) from Motor Drive
Forward turn

③



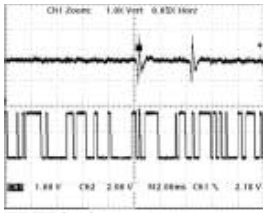
TURN(+)(-) from Motor Drive
Reverse turn

④



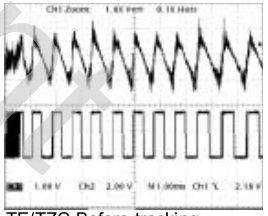
Sensor 1 (disc position)
Sensor 2 (disc ready)

⑤



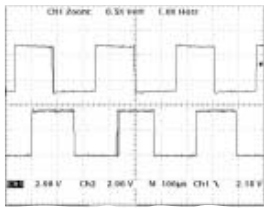
TE/TZC After tracking
servo ON (Play mode)

⑥



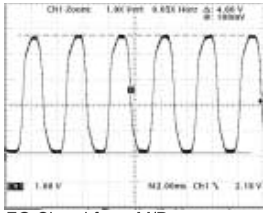
TE/TZC Before tracking
servo ON

⑦



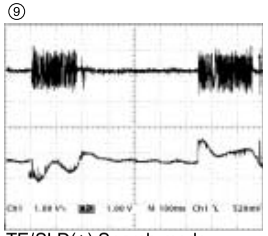
TZC/MIRR (Search mode)

⑧



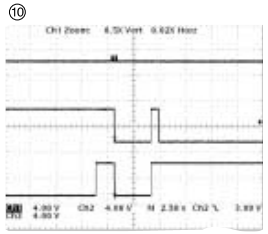
FG Signal from M/D
(Play mode)

⑨



TE/SLD(+) Search mode
(outter & inner)

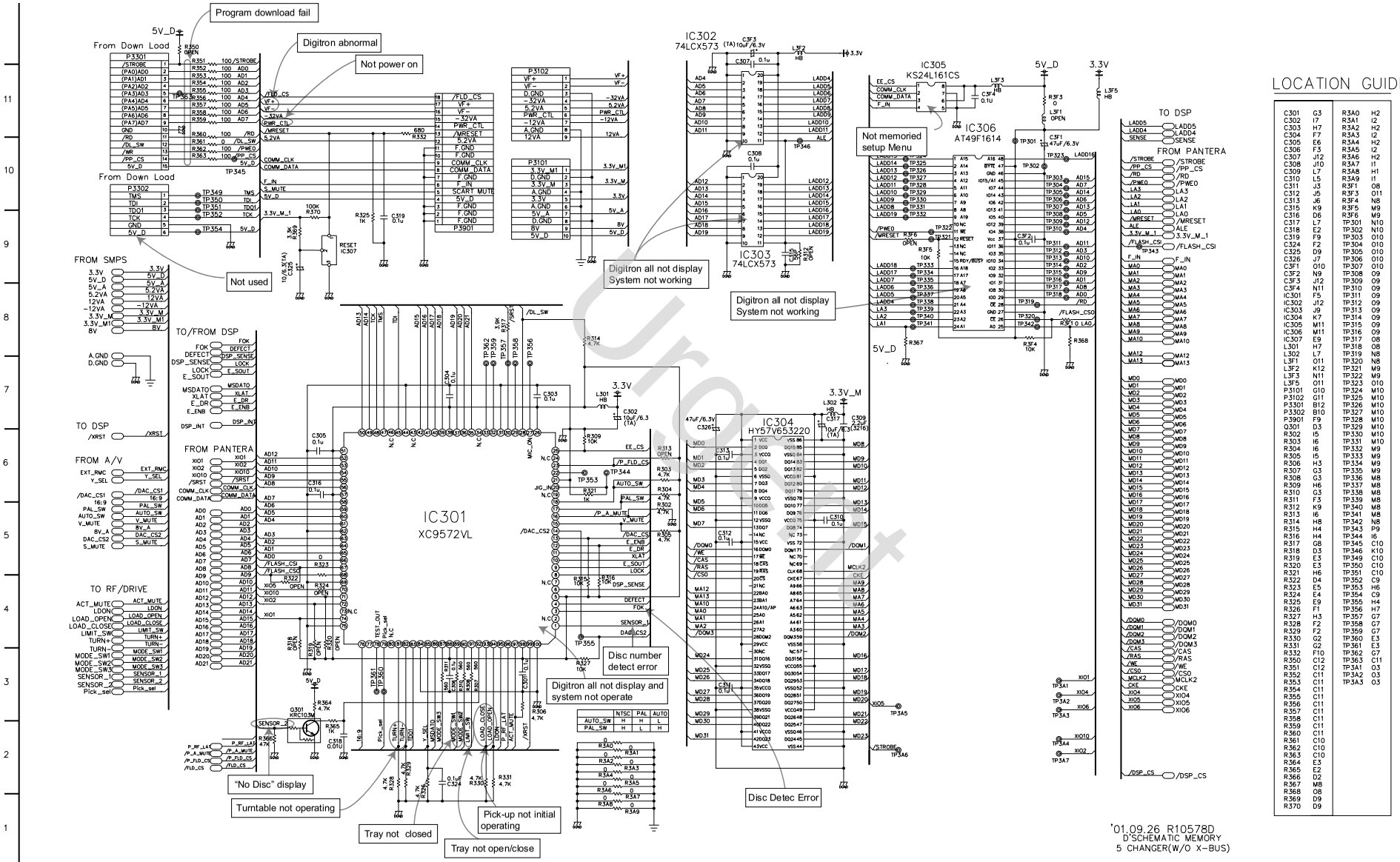
⑩



Tray open Tray closed

Urgent

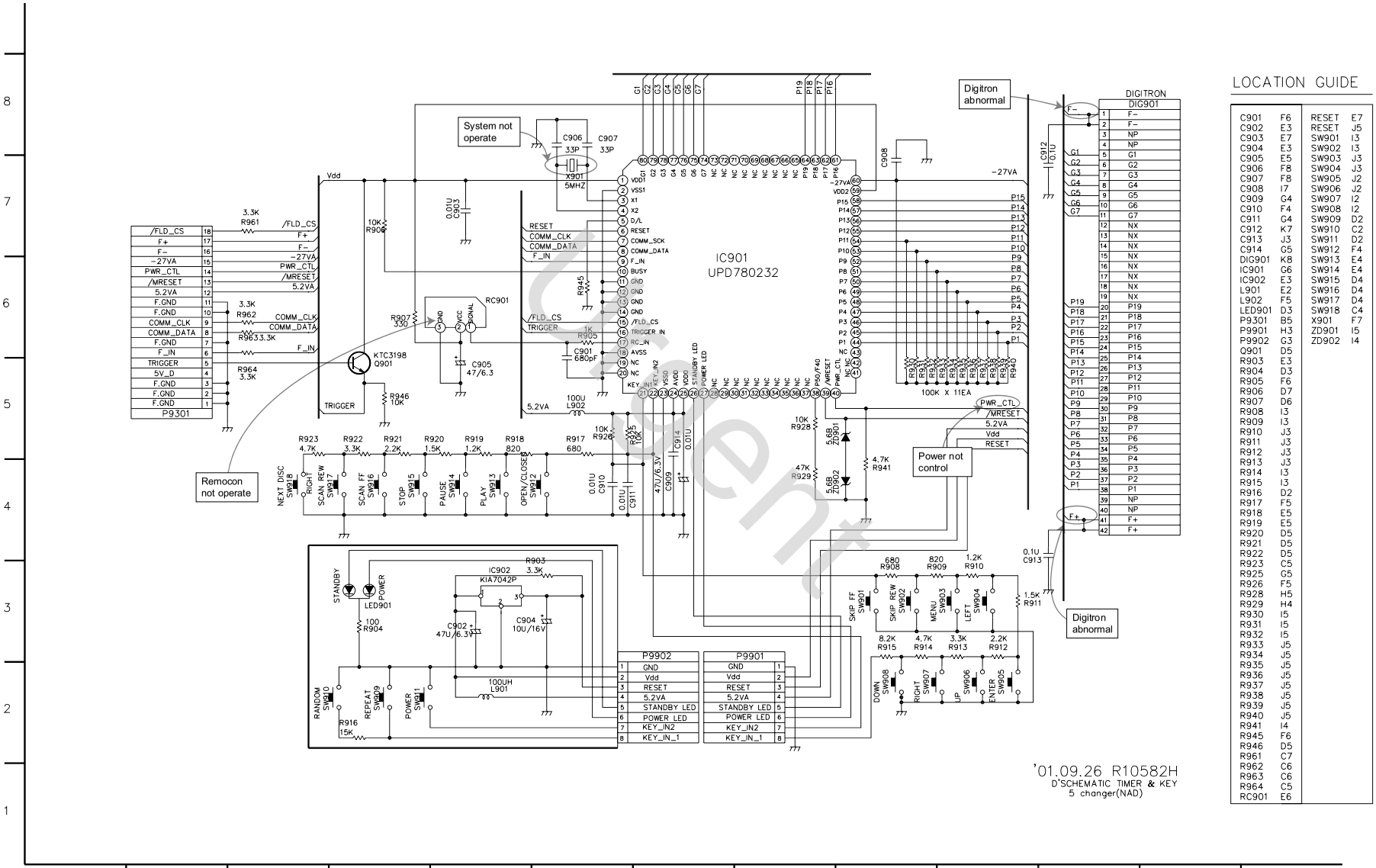
5. MEMORY CIRCUIT DIAGRAM



LOCATION GUIDE

C301	G3	R3A0	H2
C302	I7	R3A1	I2
C303	H7	R3A2	H2
C304	F7	R3A3	I2
C305	E6	R3A4	H2
C306	F3	R3A5	I2
C307	J12	R3A6	H2
C308	J10	R3A7	I1
C309	L7	R3A8	H1
C310	L5	R3A9	I1
C311	J3	R3F1	O8
C312	J5	R3F3	O11
C313	J6	R3F4	N8
C315	K9	R3F5	M9
C316	D6	R3F6	M9
C317	L7	TP301	N10
C318	E2	TP302	N10
C319	F9	TP303	O10
C324	F2	TP304	O10
C325	D9	TP305	O10
C326	J7	TP306	O10
C3F1	O10	TP307	O10
C3F2	N9	TP308	O9
C3F3	J12	TP309	O9
C3F4	N11	TP310	O9
IC301	F5	TP311	O9
IC302	J12	TP312	O9
IC303	J9	TP313	O9
IC304	K7	TP314	O9
IC305	M11	TP315	O9
IC306	M11	TP316	O9
IC307	E9	TP317	O8
L301	H7	TP318	O8
L302	L7	TP319	N8
L3F1	O11	TP320	N8
L3F2	K12	TP321	M9
L3F3	N11	TP322	M9
L3F5	O11	TP323	O10
P3101	G10	TP324	M10
P3102	G11	TP325	M10
P3301	B12	TP326	M10
P3302	B10	TP327	M10
P3901	F9	TP328	M10
Q301	D3	TP329	M10
R302	I5	TP330	M10
R303	I6	TP331	M10
R304	I6	TP332	M9
R305	I5	TP333	M9
R306	H3	TP334	M9
R307	G3	TP335	M9
R308	G3	TP336	M8
R309	H6	TP337	M8
R310	G3	TP338	M8
R311	F3	TP339	M8
R312	K9	TP340	M8
R313	I6	TP341	M8
R314	H8	TP342	N8
R315	H4	TP343	P9
R316	H4	TP344	I6
R317	G8	TP345	C10
R318	D3	TP346	K10
R319	E3	TP349	C10
R320	E3	TP350	C10
R321	H6	TP351	C10
R322	D4	TP352	C9
R323	E5	TP353	H6
R324	E4	TP354	C9
R325	E9	TP355	H4
R326	F1	TP356	H7
R327	H3	TP357	G7
R328	F2	TP358	G7
R329	F2	TP359	G7
R330	G2	TP360	E3
R331	G2	TP361	E3
R332	F10	TP362	G7
R350	C12	TP363	C11
R351	C12	TP3A1	O3
R352	C11	TP3A2	O3
R353	C11	TP3A3	O3
R354	C11		
R355	C11		
R356	C11		
R357	C11		
R358	C11		
R359	C11		
R360	C11		
R361	C10		
R362	C10		
R363	C10		
R364	E3		
R365	E2		
R366	D2		
R367	M8		
R368	O8		
R369	D9		
R370	D9		

6. TIMER & KEY CIRCUIT DIAGRAM

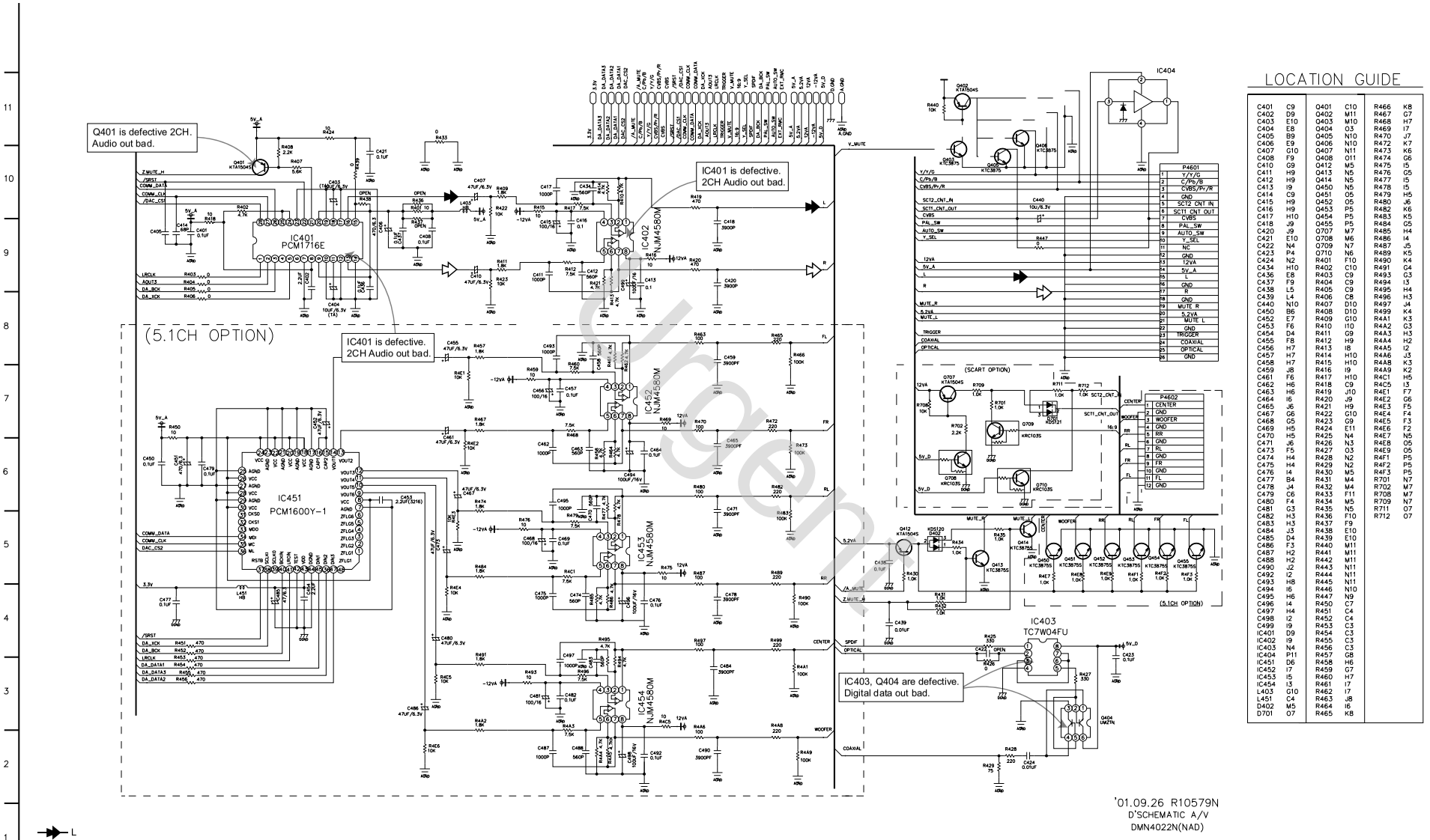


LOCATION GUIDE

C901	F6	RESET	E7
C902	E3	RESET	J5
C903	E7	SW901	I3
C904	E3	SW902	I3
C905	E5	SW903	J3
C906	F8	SW904	J3
C907	F8	SW905	J2
C908	I7	SW906	J2
C909	G4	SW907	I2
C910	F4	SW908	I2
C911	G4	SW909	D2
C912	K7	SW910	C2
C913	J3	SW911	D2
C914	G5	SW912	F4
DIG901	K8	SW913	E4
IC901	G6	SW914	E4
IC902	E3	SW915	D4
L901	E2	SW916	D4
L902	F5	SW917	D4
LED901	D3	SW918	C4
P9301	B5	X901	F7
P9901	H3	ZD901	I5
P9902	G3	ZD902	I4
Q901	D5		
R903	E3		
R904	D3		
R905	F6		
R906	D7		
R907	D6		
R908	I3		
R909	I3		
R910	J3		
R911	J3		
R912	J3		
R913	J3		
R914	I3		
R915	I3		
R916	D2		
R917	F5		
R918	E5		
R919	E5		
R920	D5		
R921	D5		
R922	D5		
R923	C5		
R925	G5		
R926	F5		
R928	H5		
R929	H4		
R930	I5		
R931	I5		
R932	I5		
R933	J5		
R934	J5		
R935	J5		
R936	J5		
R937	J5		
R938	J5		
R939	J5		
R940	J5		
R941	I4		
R945	F6		
R946	D5		
R961	C7		
R962	C6		
R963	C6		
R964	C5		
RC901	E6		

Sample

7. A/V CIRCUIT DIAGRAM

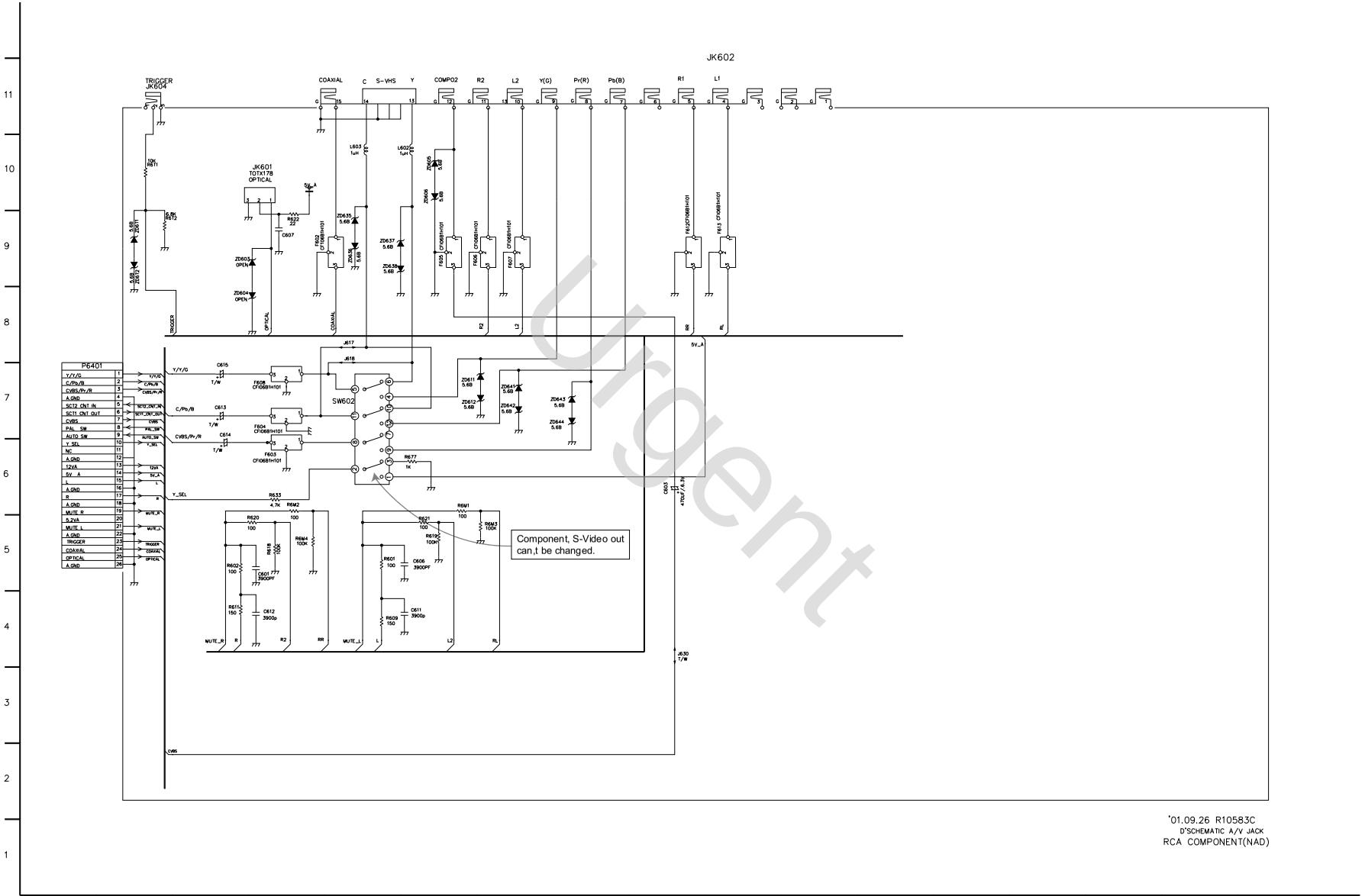


LOCATION GUIDE

C401	C9	Q401	C10	R466	K8
C402	D9	Q402	M11	R467	G7
C403	E10	Q403	M10	R468	H7
C404	E8	Q404	O3	R469	I7
C405	B9	Q405	N10	R470	J7
C406	E9	Q406	N10	R472	K7
C407	G10	Q407	N11	R473	K6
C408	F9	Q408	O11	R474	G6
C410	G9	Q412	M5	R475	I5
C411	H9	Q413	N5	R476	G5
C412	H9	Q414	N5	R477	I5
C413	I9	Q450	N5	R478	I5
C414	C9	Q451	O5	R479	H5
C415	H9	Q452	O5	R480	J6
C416	H9	Q453	P5	R482	K6
C417	H10	Q454	P5	R483	K5
C418	J9	Q455	P5	R484	G5
C420	J9	Q707	M7	R485	H4
C421	E10	Q708	M6	R486	I4
C422	N4	Q709	N7	R487	J5
C423	P4	Q710	N6	R489	K5
C424	N2	R401	F10	R490	K4
C434	H10	R402	C10	R491	G4
C436	E8	R403	C9	R493	G3
C437	F9	R404	C9	R494	I3
C438	L5	R405	C9	R495	H4
C439	L4	R406	C8	R496	H3
C440	N10	R407	D10	R497	J4
C450	B6	R408	D10	R499	K4
C452	E7	R409	G10	R4A1	K3
C453	F6	R410	I10	R4A2	G3
C454	D4	R411	G9	R4A3	H3
C455	F8	R412	H9	R4A4	H2
C456	H7	R413	I8	R4A5	I2
C457	H7	R414	H10	R4A6	J3
C458	H7	R415	H10	R4A8	K3
C459	J8	R416	I9	R4A9	K2
C461	F6	R417	H10	R4C1	H5
C462	H6	R418	C9	R4C5	I3
C463	H6	R419	J10	R4E1	F7
C464	I6	R420	J9	R4E2	G6
C465	J6	R421	H9	R4E3	F5
C467	G6	R422	G10	R4E4	F4
C468	G5	R423	G9	R4E5	F3
C469	H5	R424	E11	R4E6	F2
C470	H5	R425	N4	R4E7	N5
C471	J6	R426	N3	R4E8	O5
C473	F5	R427	O3	R4E9	O5
C474	H4	R428	N2	R4F1	P5
C475	H4	R429	N2	R4F2	P5
C476	I4	R430	M5	R4F3	P5
C477	B4	R431	M4	R701	N7
C478	J4	R432	M4	R702	M7
C479	C6	R433	F11	R708	M7
C480	F4	R434	M5	R709	N7
C481	G3	R435	N5	R711	O7
C482	H3	R436	F10	R712	O7
C483	H3	R437	F9		
C484	J3	R438	E10		
C485	D4	R439	E10		
C486	F3	R440	M11		
C487	H2	R441	M11		
C488	H2	R442	M11		
C490	J2	R443	N11		
C492	I2	R444	N11		
C493	H8	R445	N11		
C494	I6	R446	N10		
C495	H6	R447	N9		
C496	I4	R450	C7		
C497	H4	R451	C4		
C498	I2	R452	C4		
C499	I9	R453	C3		
IC401	D9	R454	C3		
IC402	I9	R455	C3		
IC403	N4	R456	C3		
IC404	P11	R457	G8		
IC451	D6	R458	H6		
IC452	I7	R459	G7		
IC453	I5	R460	H7		
IC454	I3	R461	I7		
L403	G10	R462	I7		
L451	C4	R463	J8		
D402	M5	R464	I6		
D701	O7	R465	K8		

Preview

8. A/V JACK CIRCUIT DIAGRAM



Urgent

• CIRCUIT VOLTAGE CHART

MODE / PIN NO.	LEVEL(V)
PANTERA	
IC501	
1	3.18
2	1.3
3	1.4
4	2.2
5	1.5
6	0
7	1.5
8	1.4
9	1.6
10	3.1
11	0.7
12	0.15
13	0.15
14	0
15	0
16	1.7
17	1.4
18	0
19	1.5
20	1.6
21	0
22	1.6
23	0
24	3.1
25	1.7
26	1.4
27	3.1
28	1.5
29	0.15
30	
31	0
32	0.7
33	1.5
34	2.2
35	2
36	3.1
37	2.9
38	2.2
39	2.9
40	0
41	0
42	0
43	1.6
44	3.1
45	1.6
46	1.5
47	0
48	1.4
49	0
50	1.5
51	1.7
52	1.2
53	3.1

MODE / PIN NO.	LEVEL(V)
54	1.6
55	1.4
56	1.5
57	0
58	1.6
59	1.4
60	1.5
61	1.4
62	3.1
63	1
64	1.5
65	0.005
66	0.5
67	0.003
68	1.58
69	0
70	3.1
71	1.2
72	1.2
73	1.2
74	1.2
75	3.1
76	1.65
77	2.2
78	1.5
79	1.5
80	3.1
81	3.1
82	0.001
83	3.1
84	3.7
85	0
86	
87	3.1
88	3.1
89	2.1
90	0.004
91	3.1
92	0
93	
94	
95	
96	
97	0
98	
99	
100	0
101	2.1
102	3.1
103	0
104	0
105	0
106	0
107	2.1
108	2.1

MODE / PIN NO.	LEVEL(V)
109	0
110	0.8
111	0.9
112	1.3
113	3.1
114	0.78
115	0
116	1.26
117	2.38
118	0.08
119	1.2
120	2
121	0
122	3.1
123	3.1
124	3.1
125	3.1
126	
127	
128	
129	
130	
131	
132	0
133	
134	
135	2.2
136	
137	3.1
138	3.1
139	3.1
140	3.1
141	3.1
142	3.1
143	3.1
144	3.1
145	3.1
146	3.1
147	0
148	3.1
149	3.1
150	3.1
151	3.1
152	3.1
153	3.1
154	3.1
155	3.1
156	3.1
157	3.1
158	3.1
159	2.2
160	1.5
161	3.1
162	
163	0

MODE / PIN NO.	LEVEL(V)
164	3.1
165	3.1
166	3.1
167	3.1
168	3.1
169	3.1
170	3.1
171	0
172	3.1
173	3.1
174	3.1
175	1.5
176	3.1
177	0
178	3.1
179	3.1
180	3.1
181	3.1
182	3.18
183	0.086
184	3
185	2.4
186	2.3
187	0
188	0
189	3.1
190	0
191	0.017
192	2.2
193	3.1
194	3.1
195	0
196	3.18
197	1.3
198	3.1
199	3.1
200	3.1
201	0
202	2.3
203	3.1
204	0.001
205	3.1
206	3.1
207	3.1
208	1.6
209	3.1
210	3.18
211	0.018
212	2.2
213	3.19
214	2.69
215	1.5
216	2.9
217	2.59
218	0

MODE / PIN NO.	LEVEL(V)
219	2.29
220	2.08
221	2.29
222	2.29
223	2.49
224	3.1
225	2.39
226	2.45
227	1.5
228	0
229	1.52
230	0
231	1.61
232	1.6
233	3.1
234	1.6
235	1.6
236	1.5
237	0
238	1.6
239	1.4
240	1.5

MODE / PIN NO.	LEVEL(V)
MEMORY	
IC301	
1	4.3
2	
3	3.1
4	0
5	3.2
6	2
7	
8	3.1
9	0.01
10	3.1
11	3.2
12	3.2
13	3.2
14	3.2
15	0
16	3.1
17	3.1
18	3.1
19	
20	0
21	0
22	0
23	3
24	
25	0.625
26	3.2
27	0.705
28	3.2
29	3.1
30	
31	0
32	
33	
34	
35	3.1
36	3.1
37	2.39
38	3.2
39	1.49
40	1.5
41	3.09
42	1.69
43	0
44	3.1
45	
46	3.1
47	
48	2.5
49	3.1
50	3.1
51	3.2
52	3.1
53	3.1

MODE / PIN NO.	LEVEL(V)
54	3.1
55	3.1
56	3.1
57	3.1
58	3.1
59	3.1
60	3.1
61	0.5
62	0
63	3.1
64	3.1
65	3.1
66	3.1
67	3.1
68	1.6
69	0
70	0
71	3.1
72	0
73	
74	3.1
75	0
76	3.2
77	0
78	3.1
79	0.3
80	
81	0
82	0
83	2.5
84	0
85	3.19
86	3.19
87	4.4
88	3.19
89	4.4
90	0
91	4.4
92	0
93	0
94	0
95	0
96	0
97	3.17
98	3.17
99	3.1
100	0

MODE / PIN NO.	EE	PLAY
DSP		
IC201 SP3301		
1	2.00	1.30
2	2.00	1.30
3	2.00	1.30
4	2.00	1.30
5	2.00	1.30
6	2.00	1.30
7	2.00	1.30
8	2.00	1.30
9	2.00	1.30
10	2.00	1.30
11	2.00	1.30
12	2.00	1.30
13	2.00	1.30
14	2.00	1.30
15	2.00	1.30
16	2.00	1.30
17	0.00	0.00
18	0.00	1.50
19	0.00	1.50
20	0.00	1.50
21	0.00	1.50
22	3.10	3.00
23	0.00	1.50
24	0.00	1.50
25	0.00	1.50
26	0.00	1.50
27	0.00	1.50
28	2.10	1.50
29	0.00	0.00
30	2.10	2.00
31	3.10	3.00
32	3.10	1.50
33	3.10	2.50
34	3.10	2.50
35	2.10	1.30
36	1.10	1.80
37	0.00	0.00
38	0.00	0.00
39	0.00	0.00
40	3.10	3.00
41	0.00	0.00
42	3.10	3.00
43	0.00	0.00
44	0.00	0.00
45	3.10	3.00
46	0.00	0.00
47	0.00	0.00
48	0.00	0.00
49	0.00	3.00
50	0.00	0.00
51	0.00	0.00
52	3.10	1.80
53	0.00	0.00

MODE / PIN NO.	EE	PLAY
54	3.10	3.00
55	3.10	3.00
56	0.00	0.00
57	0.00	3.13
58	5.00	4.98
59	0.00	0.00
60	0.00	0.00
61	5.00	4.98
62	0.00	0.00
63	2.10	2.10
64	0.00	0.00
65	3.10	3.00
66	0.00	0.00
67	3.10	3.12
68	0.00	0.00
69	0.00	0.20
70	0.00	0.00
71	3.10	3.10
72	0.00	0.20
73	0.00	0.00
74	3.10	3.10
75	0.00	0.00
76	0.00	0.00
77	0.00	0.00
78	0.00	2.30
79	3.10	3.10
80	5.00	5.00
81	0.00	0.00
82	5.00	5.00
83	2.10	2.00
84	2.10	2.10
85	3.10	3.10
86	1.40	1.40
87	0.00	0.00
88	2.10	2.00
89	2.10	2.00
90	0.00	0.00
91	1.50	1.55
92	3.10	3.12
93	1.60	1.55
94	1.10	1.11
95	2.00	2.00
96	1.55	1.55
97	0.00	0.00
98	1.55	1.55
99	1.56	2.15
100	3.10	3.10
101	1.55	1.58
102	1.55	1.55
103	1.62	1.64
104	1.55	1.55
105	1.50	1.50
106	0.00	0.00
107	0.00	0.00
108	0.00	0.00

MODE / PIN NO.	EE	PLAY
109	0.00	0.00
110	0.00	0.00
111	0.00	0.00
112	0.00	0.00
113	3.40	4.70
114	5.00	5.00
115	1.50	1.50
116	1.50	1.53
117	3.10	3.10
118	0.00	0.00
119	0.00	0.00
120	3.50	4.20
121	3.25	4.20
122	3.45	4.30
123	3.50	4.30
124	3.50	4.30
125	3.50	4.50
126	0.00	0.00
127	3.60	2.60
128	0.00	0.00
129	3.60	2.60
130	0.00	0.20
131	0.00	0.00
132	0.00	3.10
133	3.10	3.10
134	0.00	0.00
135	0.00	0.00
136	3.10	2.20
137	0.00	0.00
138	0.00	0.00
139	3.10	3.10
140	3.00	3.10
141	0.00	0.00
142	3.00	3.00
143	3.10	3.10
144	3.10	3.10
145	3.10	0.90
146	3.50	4.50
147	0.00	0.00
148	0.00	0.00
149	0.00	0.00
150	0.00	0.00
151	0.00	0.00
152	0.00	0.00
153	0.00	0.00
154	0.00	0.00
155	1.55	1.55
156	3.10	3.10
157	1.50	1.50
158	0.00	0.00
159	0.00	0.00
160	2.60	2.60
161	3.10	3.10
162	2.00	2.00
163	2.00	2.00

Original

MODE / PIN NO.	EE	PLAY
164	1.40	1.40
165	3.20	0.00
166	1.60	1.75
167	0.00	0.00
168	0.00	3.10
169	0.00	3.10
170	5.00	2.50
171	0.00	2.50
172	3.10	0.00
173	3.10	3.10
174	3.10	3.10
175	3.10	3.10
176	2.53	1.30
177	4.24	4.97
178	5.00	5.00
179	2.70	0.20
180	3.26	2.30
181	3.10	2.50
182	2.40	2.50
183	3.66	2.80
184	2.40	2.50
185	0.00	0.00
186	2.26	2.00
187	3.10	3.10
188	2.20	2.40
189	1.75	1.90
190	2.20	1.80
191	1.80	1.80
192	2.20	2.20
193	1.25	1.30
194	1.00	1.10
195	5.00	5.00
196	0.00	2.25
197	0.00	1.60
198	0.00	1.50
199	0.00	1.50
200	0.00	1.50
201	0.00	1.50
202	0.00	1.50
203	0.00	1.50
204	0.00	1.50
205	3.10	2.60
206	1.50	1.50
207	3.10	3.10
208	3.10	3.10
S E R V O		
IC2A1 33P3721		
1	3.44	3.38
2	3.12	3.40
3	2.50	2.50
4	2.51	2.53
5	3.50	3.44
6	3.46	3.44
7	3.47	3.45
8	3.47	3.44

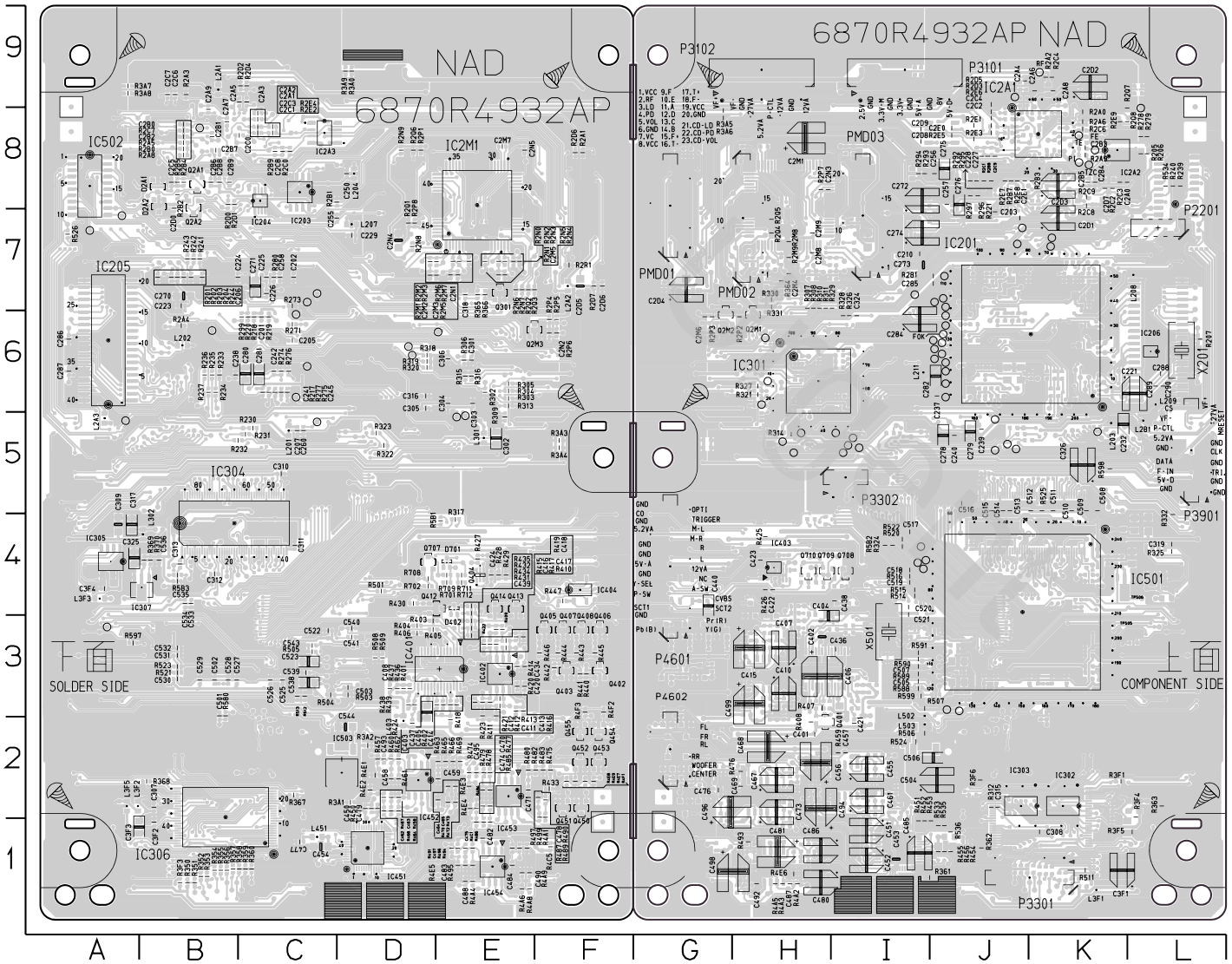
MODE / PIN NO.	EE	PLAY
9	3.48	3.44
10	3.43	3.41
11	2.52	2.70
12	2.52	2.70
13	2.52	2.60
14	2.52	2.60
15	2.56	2.70
16	2.48	2.50
17	2.98	3.30
18	0.00	0.00
19	4.50	4.58
20	0.00	0.00
21	0.00	0.20
22	4.96	3.85
23	0.00	0.00
24	4.95	4.92
25	5.00	0.00
26	2.52	2.50
27	1.55	1.55
28	4.97	4.93
29	0.00	0.40
30	2.55	2.63
31	2.51	2.56
32	4.90	4.65
33	0.00	0.20
34	0.00	2.60
35	0.00	2.50
36	1.56	2.15
37	3.58	0.00
38	2.62	3.20
39	0.00	2.60
40	2.50	2.60
41	1.55	1.60
42	1.46	1.65
43	1.58	1.64
44	2.52	2.50
45	4.92	4.97
46	4.99	5.00
47	0.00	0.00
48	0.00	0.00
49	3.59	0.00
50	0.00	0.00
51	2.35	0.00
52	2.37	2.30
53	3.51	3.47
54	3.51	3.46
55	0.61	0.00
56	1.67	2.42
57	2.95	2.88
58	4.98	4.93
59	3.48	3.40
60	3.48	3.40
61	3.71	3.70
62	3.75	3.70
63	0.27	0.36

MODE / PIN NO.	EE	PLAY
64	2.40	0.90

Urgent

PRINTED CIRCUIT DIAGRAMS

1. MAIN P.C.BOARD

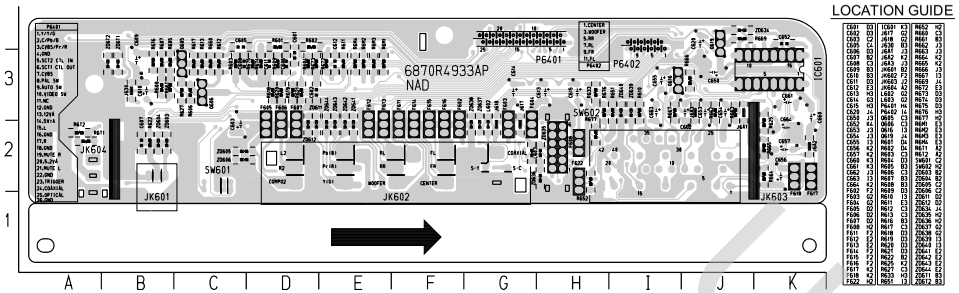


LOCATION GUIDE

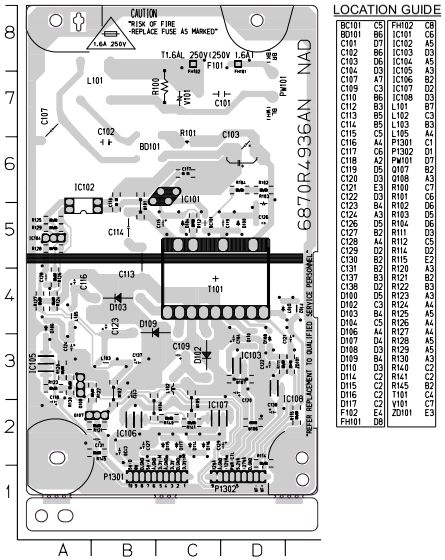
C201	C6	C302	E5	C501	B3	L3F5	A2	R2A8	B8	R322	D5	R433	F2	R4C1	E1
C202	C7	C303	E6	C502	B3	L403	D2	R2B0	B8	R323	D5	R434	E3	R4C5	E2
C205	C6	C304	E6	C503	D3	L451	C1	R2B1	D8	R350	B1	R435	E4	R4E1	D2
C206	B7	C305	D6	C522	C3	Q2A1	B8	R2B2	B8	R351	B1	R436	D3	R4E2	D2
C207	C5	C306	E6	C523	C3	Q2A2	B8	R2B4	B8	R352	B1	R437	D3	R4E3	E2
C223	B7	C307	B2	C525	C3	Q2M3	F6	R2B5	B8	R353	B1	R438	D3	R4E4	E2
C224	C7	C309	A4	C526	C3	Q301	E7	R2B9	C8	R354	B1	R439	D3	R4E5	E1
C225	C7	C310	C5	C527	B3	Q402	F3	R2C0	C8	R355	B1	R440	F3	R4E7	F2
C226	B7	C311	A4	C528	B3	Q403	F3	R2C7	B8	R356	B1	R441	F3	R4E8	F2
C229	D7	C312	B4	C529	B3	Q404	E4	R2D0	B8	R357	B1	R442	F3	R4E9	F2
C238	B6	C313	B4	C530	B3	Q405	F3	R2D1	B8	R358	C1	R443	F3	R4F1	F2
C241	C6	C316	D6	C531	B3	Q406	F3	R2D2	C9	R359	C1	R444	F3	R4F2	F3
C242	C6	C317	A4	C532	B3	Q407	F3	R2D4	C9	R360	C1	R445	F3	R4F3	F3
C245	C6	C318	E7	C533	B4	Q408	F3	R2D5	F8	R365	E7	R446	F3	R501	D4
C250	D8	C325	A4	C534	B4	Q412	E4	R2D7	F7	R366	E7	R447	F4	R503	D3
C255	D7	C3F2	B1	C535	B4	Q413	E4	R2E2	C8	R367	D2	R448	D3	R504	C3
C258	C7	C3F3	B1	C536	B4	Q414	E4	R2E3	C8	R368	B2	R457	D2	R505	C3
C260	C5	C3F4	A4	C538	C3	Q450	F2	R2M1	D7	R369	B4	R458	D2	R508	D3
C270	B7	C403	D3	C539	C3	Q451	F2	R2M2	D7	R370	B4	R460	D2	R509	D3
C271	C7	C405	E3	C540	D3	Q452	F2	R2M3	E7	R3A0	D9	R461	D2	R512	C3
C280	C6	C408	D3	C541	D3	Q453	F2	R2M5	E7	R3A1	D2	R462	D2	R513	C3
C281	C6	C411	E3	C543	C3	Q454	F2	R2M6	E7	R3A2	D2	R463	E2	R521	B3
C286	A6	C412	E3	C544	D2	Q455	F2	R2M7	E7	R3A3	F5	R464	D2	R523	B3
C287	A6	C413	E3	D2A1	B8	Q707	B4	R2N0	E7	R3A4	F5	R465	E2	R526	A7
C2A1	C8	C414	E3	D2A2	B8	R200	B7	R2N1	E7	R3A7	A9	R466	E2	R580	B3
C2A2	C8	C416	E3	D402	E4	R202	B7	R2N2	E7	R3A8	A9	R467	D2	R597	A3
C2A3	C9	C417	E3	IC201	C8	R203	B7	R2N3	E7	R3A9	D9	R468	D2	R5B1	E4
C2A5	C9	C418	E3	IC203	C8	R204	B7	R2N4	E7	R3F3	B1	R469	E2	R5B3	B4
C2A7	B8	C420	E3	IC204	C8	R217	C6	R2N5	E7	R401	D3	R470	E2	R701	E4
C2A9	B8	C424	E3	IC205	A6	R218	C6	R2N6	E7	R402	D3	R472	E2	R702	D6
C2B0	B8	C434	E3	IC2A3	C8	R219	C6	R2N7	E7	R403	D3	R473	E2	R708	D4
C2B1	B8	C437	E3	IC2M1	E8	R220	C6	R2N8	D7	R404	D3	R474	E2	R709	E4
C2B2	B8	C439	E3	IC301	B4	R230	C5	R2N9	D8	R405	D3	R475	F2	R711	E4
C2B6	B8	C450	D2	IC305	A4	R231	C5	R2P1	D8	R406	D3	R477	E2	R712	E4
C2B7	B8	C457	D2	IC307	B4	R232	C5	R2P4	F6	R409	D3	R478	E2	TP206	A3
C2B8	B8	C458	D2	IC307	B4	R233	B6	R2P5	F6	R410	E3	R479	E2	TP207	C6
C2B9	B8	C459	E2	IC401	E3	R234	B6	R2P6	F6	R411	E3	R480	E2	TP208	C5
C2C0	B8	C462	E3	IC402	E3	R235	B6	R2P8	A12	R412	E3	R482	E2	TP212	C6
C2C1	C8	C463	D2	IC404	F4	R236	B6	R2Q1	D7	R413	E3	R483	F2	TP218	B6
C2C3	C8	C464	E3	IC451	D1	R237	B6	R2Q2	E7	R414	E3	R484	E2	TP221	E6
C2C5	C8	C465	D2	IC452	D2	R241	B7	R2Q3	E7	R415	E3	R485	E2	TP231	C6
C2C6	B9	C470	E2	IC453	E2	R242	B7	R2Q6	D8	R416	E3	R486	E1	TP235	A5
C2C7	B9	C471	E2	IC454	E1	R243	B7	R2R1	F7	R417	E3	R487	F2	TP242	C7
C2C8	C8	C474	E2	IC502	A8	R244	B7	R302	E6	R418	E2	R489	F2	TP244	C7
C2D0	B8	C475	E1	IC503	D2	R271	C6	R303	E6	R419	E3	R490	F2	TP2A1	B8
C2D5	F7	C477	D2	L201	C5	R273	C7	R304	E6	R420	E3	R491	E1	TP359	E5
C2D6	F7	C478	F2	L202	B6	R274	C6	R305	E6	R421	E3	R494	E1	TP360	D6
C2M2	E7	C479	D2	L204	D8	R275	C6	R306	E6	R422	E3	R495	E1	TP361	D6
C2M3	E7	C482	D2	L207	D7	R276	C6	R309	E6	R423	E3	R496	E1	TP362	E5
C2M5	E7	C483	E1	L2A1	B9	R277	C6	R313	E6	R424	D2	R497	E1	TP515	A7
C2M7	E8	C484	E2	L2A2	F7	R280	C7	R315	E6	R427	E4	R499	E1	TP516	A7
C2N1	E7	C488	E1	L2A3	A5	R299	C6	R316	E6	R428	E4	RA41	E1		
C2N2	F6	C490	E1	L301	E5	R2A1	F8	R317	E4	R429	E4	RA4A	E1		
C2N4	E8	C493	E2	L3F2	A2	R2A4	B6	R318	D6	R430	D4	RA46	E1		
C2N5	E8	C495	E2	L3F3	A4	R2A5	B8	R319	D6	R431	E3	RA48	E1		
C301	E6	C497	E1					R320	D6	R432	E4	RA49	E1		

C203	J7	C415	H3	L3F1	K1	R2P3	G6	R535	J1	TP319	K2				
C210	I7	C421	I2	L502	I3	R2P7	H6	R536	J1	TP320	K2				
C221	L6	C422	H4	L503	I2	R204	H7	R588	I3	TP321	J1				
C227	C7	C423	H4	P2201	L7	R205	H7	R589	I3	TP322	J1				
C228	J8	C436	I3	P3101	I9	R207	L8	R590	I3	TP323	J1				
C232	K5	C438	I4	P3102	H9	R208	L8	R591	I3	TP324	J1				
C237	J6	C440	G4	P3301	K1	R307	H7	R598	K5	TP325	J1				
C239	J5	C451	I1	P3302	I5	R308	H7	R599	I3	TP326	J1				
C240	H7	C452	I1	P3901	L5	R310	H7	R682	I7	TP327	J1				
C256	J8	C453	I1	P4601	G4	R311	H7	TP201	K5	TP328	K1				
C257	J8	C455	I2	P4602	G2	R312	J2	TP202	J5	TP329	K1				
C272	I8	C456	H2	PMD01	G8	R314	H5	TP203	J5	TP330	K1				
C273	I7	C457	I2	PMD02	H7	R321	H6	TP204	J5	TP331	K1				
C274	I7	C461	I2	PMD03	I7	R324	I4	TP205	J5	TP332	J1				
C275	J8	C467	H2	Q2M1	H6	R325	L4	TP209	J6	TP333	J1				
C276	J8	C468	H2	Q2M2	G6	R326	I6	TP210	J6	TP334	J1				
C278	J5	C469	H2	Q2M3	H2	R327	H6	TP211	J6	TP335	J2				
C279	J5	C473	H2	Q708	I6	R328	I6	TP213	J6	TP336	J2				
C282	J6	C476	G2	Q709	H4	R329	J7	TP214	J6	TP337	K1				
C284	I6	C480	H1	Q710	H4	R330	H7	TP215	J6	TP338	K1				
C285	J7	C481	H1	R205	L8	R331	H7	TP216	J6	TP339	K2				
C288	L6	C485	I1	R206	L8	R332	L4	TP219	H6	TP340	K2				
C289	L6	C486	H1	R207	L6	R361	J1	TP220	J6	TP341	K2				
C290	L6	C487	H1	R221	J7	R362	J1	TP222	K7	TP342	K2				
C2A0	L8	C492	H1	R239	L8	R363	L2	TP223	K8	TP343	K2				
C2A4	J9	C494	G2	R240	L8	R364	H7	TP224	K8	TP344	H5				
C2A6	K9	C496	G2	R2B6	L8	R365	G8	TP225	J6	TP345	L2				
C2A8	K9	C498	H3	R2B7	L8	R366	G8	TP226	J6	TP346	J2				
C2B3	K8	C499	H3	R281	J7	R3F1	K2	TP228	J6	TP349	I5				
C2B4	K8	C504	J2	R292	J8	R3F4	L2	TP229	J7	TP350	I5				
C2B5	K8	C505	J2	R293	I8	R3F5	L1	TP230	J7	TP351	I5				
C2C2	J8	C506	J2	R294	I8	R3F6	J2	TP232	J7	TP352	I5				
C2C4	J8	C507	I3	R295	J8	R407	H2	TP233	J7	TP353	H5				
C2C9	J8	C508	K3	R296	J8	R408	H2	TP234	J7	TP354	I5				
C2D1	K7	C509	K5	R297	J8	R425	H4	TP239	K7	TP355	H6				
C2D2	K9	C510	K5	R2A0	K8	R426	H4	TP241	J6	TP356	H5				
C2D3	K8	C511	K5	R2A2	K9	R451	I1	TP243	J7	TP357	H5				
C2D4	G7	C512	K5	R2A6	K8	R452	I1	TP245	I7	TP358	H5				
C2D7	K6	C513	J5	R2A9	K8	R453	J1	TP2A2	L8	TP363	K1				
C2D8	I8	C514	J5	R2B3	K8	R454	J1	TP2A3	K8	TP3A1	K2				
C2D9	I8	C515	J5	R2B7	J8	R455	J1	TP2A4	J9	TP3A2	L2				
C2E0	J8	C516	J5	R2B8	J8	R456	J1	TP2A5	K8	TP3A3	L2				
C2E1	J8	C517	I4	R2C1	J8	R459	I2	TP2A8	K9	TP3A4	L2				
C2M1	H7	C518	I4	R2C2	K8	R476	H2	TP301	K2	TP3A5	L2				
C2M4	H7	C519	I4	R2C3	K8	R493	H1	TP302	K2	TP3A6	L2				
C2M6	G6	C520	I4	R2C4	K9	R4A2	H1	TP303	J2	TP3A7	L2				
C2M8	G6	C521	I4	R2C5	K8	R4A3	H1	TP304	K2	TP501	I4				
C2M9	H7	IC201	K6	R2C8	K8	R4A5	H1	TP305	K2	TP502	I4				
C2N3	H8	IC206	L6	R2C9	K8	R4E6	H1	TP306	K1	TP503	I4				
C308	K1	IC2A1	K8	R2D3	J8	R506	I4	TP307	K1	TP504	I4				
C315	J2	IC2A2	K8	R2D5	J9	R507	I3	TP308	K1	TP505	L3				
C319	L4	IC301	H6	R2E1	J8	R511	K1	TP309	K2	TP506	L4				
C324	I6	IC302	K2	R2E3	J8	R514	I4	TP310	K1	TP513	J3				
C326	K5	IC303	J2	R2E5	J8	R515	I4	TP311	K2	TP514	J3				
C3F1	K1	IC403	H4	R2E6	J8	R516	I4	TP312	K2	TP517	J2				
C401	H2	IC501	J4	R2E7	J8	R520	I4	TP313	K2	X201	L6				
C402	H3	L203	K5	R2E8	J8	R522	I4	TP314	K2	X501	I3				
C404	H3	L209	L7	R2E9	K8	R524	I2	TP315	K2						
C406	H3	L209	L6	R2M8	H7	R525	K5	TP316	K2						
C407	H3	L211	K6	R2M9	H7	R533	J1	TP317	K2						
C410	H3	L2B1	L5	R2P2	H6	R534	L8	TP318	K2						

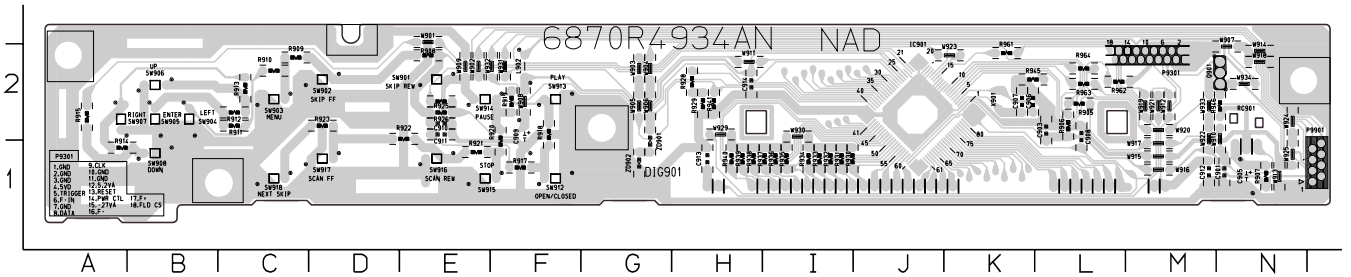
2. AV JACK P.C.BOARD

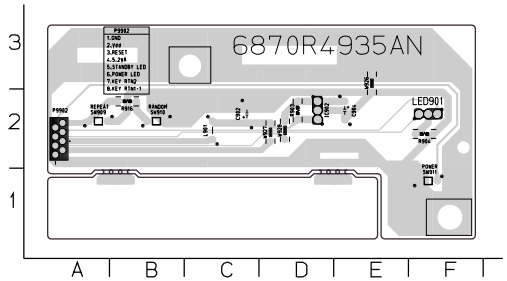


3. SMPS P.C.BOARD



4. FRONT P.C.BOARD



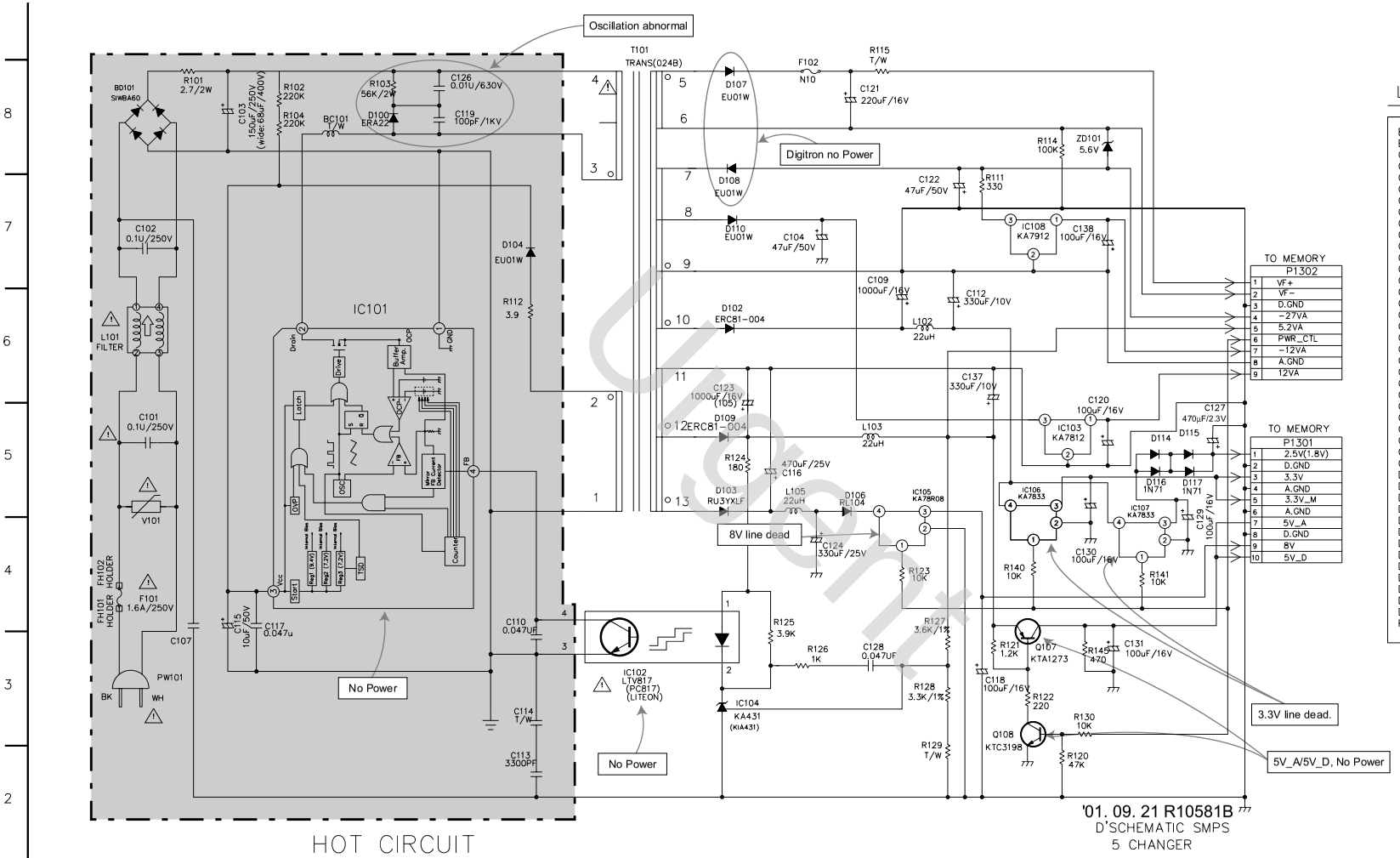


Urgent

CIRCUIT DIAGRAM

1. POWER(SMPS) CIRCUIT DIAGRAM

NOTE :
1. Shaded(▥) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during Play mode.



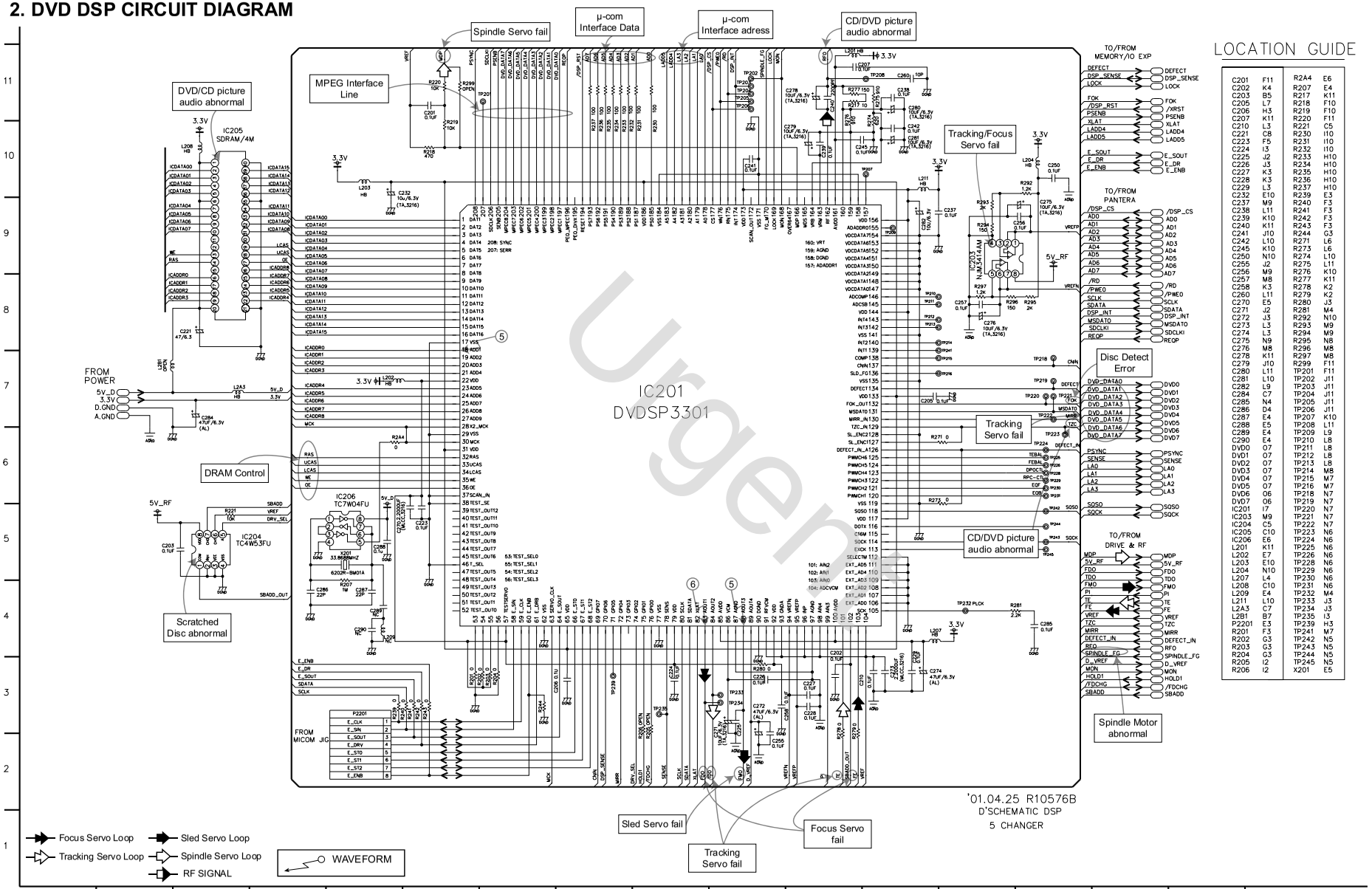
NOTES) ⚠ Warning
Parts that are shaded are critical
With respect to risk of fire or
electricial shock.

LOCATION GUIDE

BC101	C8	FH101	A4
BD101	A8	FH102	A4
C101	A5	IC101	C6
C102	A7	IC102	F3
C103	B8	IC103	J5
C104	G7	IC104	G3
C107	B3	IC105	H5
C109	H7	IC106	I5
C110	E4	IC107	J5
C112	I6	IC108	I7
C113	E2	L101	A6
C114	E3	L102	H6
C115	B3	L103	H5
C116	C5	L105	G5
C117	C4	P1301	K5
C118	I3	P1302	L7
C119	D8	PW101	B3
C120	J6	Q107	I3
C121	H8	Q108	I3
C122	H7	R101	B8
C123	G6	R102	C8
C124	G4	R103	D8
C126	D8	R104	C8
C127	K5	R111	I7
C128	H3	R112	E6
C129	K4	R114	I8
C130	J4	R115	H9
C131	J3	R120	J2
C137	I6	R121	I3
C138	J7	R122	I3
D100	C8	R123	H4
D102	G6	R124	G5
D103	G5	R125	G4
D104	E7	R126	G3
D106	H5	R127	H4
D107	G8	R128	H3
D108	C7	R129	H2
D109	G5	R130	J3
D110	C7	R140	I4
D114	J5	R141	J4
D115	K5	R145	J3
D116	J5	T101	F9
D117	K5	V101	B4
F102	G8	ZD101	J8

USER

2. DVD DSP CIRCUIT DIAGRAM

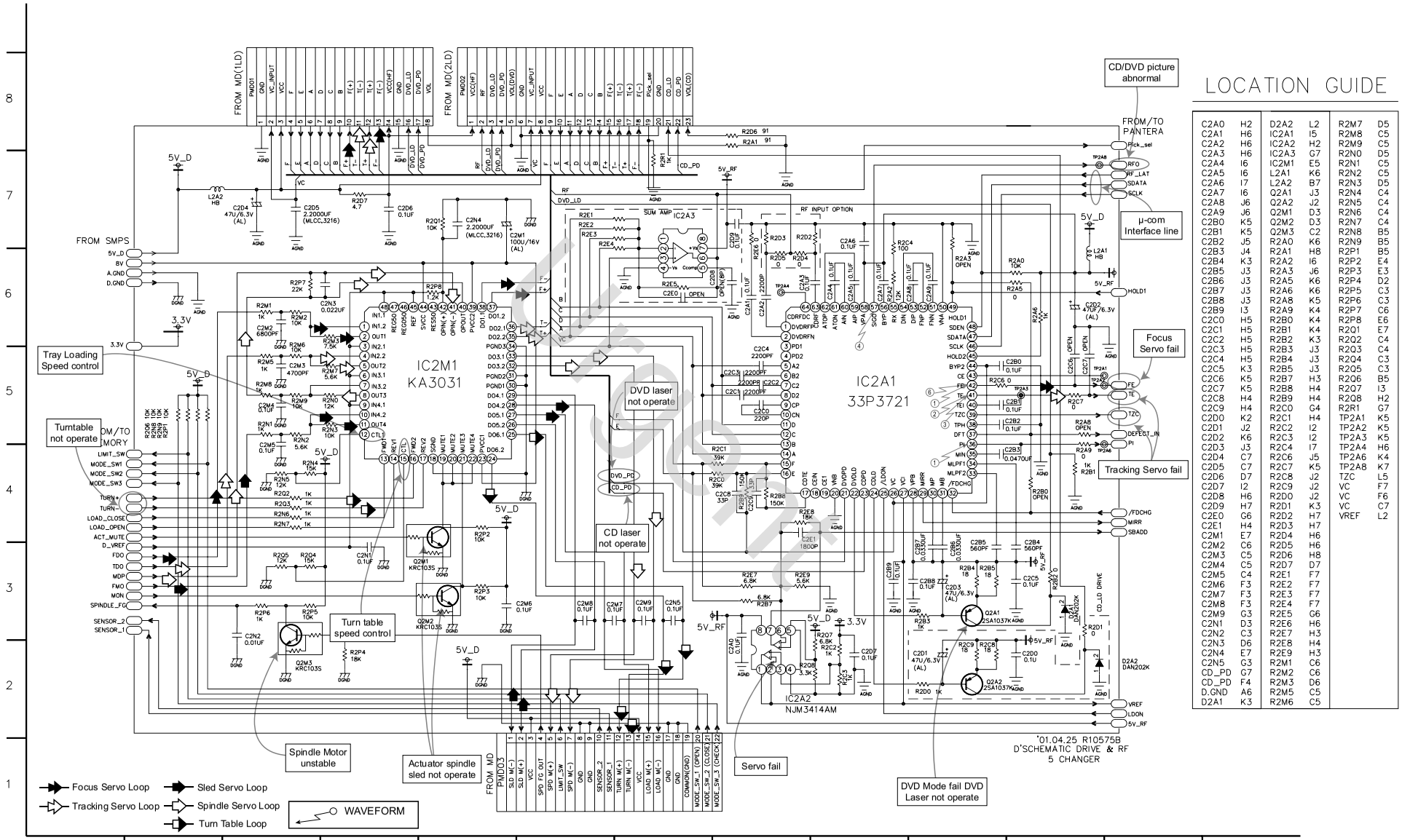


Focus Servo Loop
Tracking Servo Loop
Sled Servo Loop
Spindle Servo Loop
RF SIGNAL
WAVEFORM

LOCATION GUIDE

C201	F11	R2A4	E6
C202	K4	R207	E4
C203	B5	R217	K11
C205	L7	R218	F10
C206	H3	R219	F10
C207	K11	R220	F11
C210	L3	R221	C5
C221	C8	R230	I10
C223	F5	R231	I10
C224	I3	R232	I10
C225	J2	R233	H10
C226	J3	R234	H10
C227	K3	R235	H10
C228	K3	R236	H10
C229	L3	R237	H10
C232	E10	R239	E3
C237	M9	R240	F3
C238	L11	R241	F3
C239	K10	R242	F3
C240	K11	R243	F3
C241	J10	R244	G3
C242	L10	R271	L6
C245	K10	R273	L6
C250	N10	R274	L10
C255	J2	R275	L11
C256	M9	R276	K10
C257	M8	R277	K11
C258	K3	R278	K2
C260	L11	R279	K2
C270	E5	R280	J3
C271	J2	R281	M4
C272	J3	R292	N10
C273	L3	R293	M9
C274	L3	R294	M9
C275	N9	R295	N8
C276	M8	R296	M8
C278	K11	R297	M8
C279	J10	R299	F11
C280	L11	TP201	F11
C281	L10	TP202	J11
C282	L9	TP203	J11
C284	C7	TP204	J11
C285	N4	TP205	J11
C286	D4	TP206	J11
C287	E4	TP207	K10
C288	E5	TP208	L11
C289	E4	TP209	L9
C290	E4	TP210	L8
DVD0	O7	TP211	L8
DVD1	O7	TP212	L8
DVD2	O7	TP213	L8
DVD3	O7	TP214	M8
DVD4	O7	TP215	M7
DVD5	O7	TP216	M7
DVD6	O6	TP218	N7
DVD7	O6	TP219	N7
IC201	I7	TP220	N7
IC203	M9	TP221	N7
IC204	C5	TP222	N7
IC205	C10	TP223	N6
IC206	E6	TP224	N6
L201	K11	TP225	N6
L202	E7	TP226	N6
L203	E10	TP228	N6
L204	N10	TP229	N6
L207	L4	TP230	N6
L208	C10	TP231	N6
L209	E4	TP232	M4
L211	L10	TP233	J3
L2A3	C7	TP234	J3
L281	B7	TP235	I3
P2201	E3	TP239	H3
R201	F3	TP241	M7
R202	G3	TP242	N5
R203	G3	TP243	N5
R204	G3	TP244	N5
R205	I2	TP245	N5
R206	I2	X201	E5

3. DRIVE & RF CIRCUIT DIAGRAM

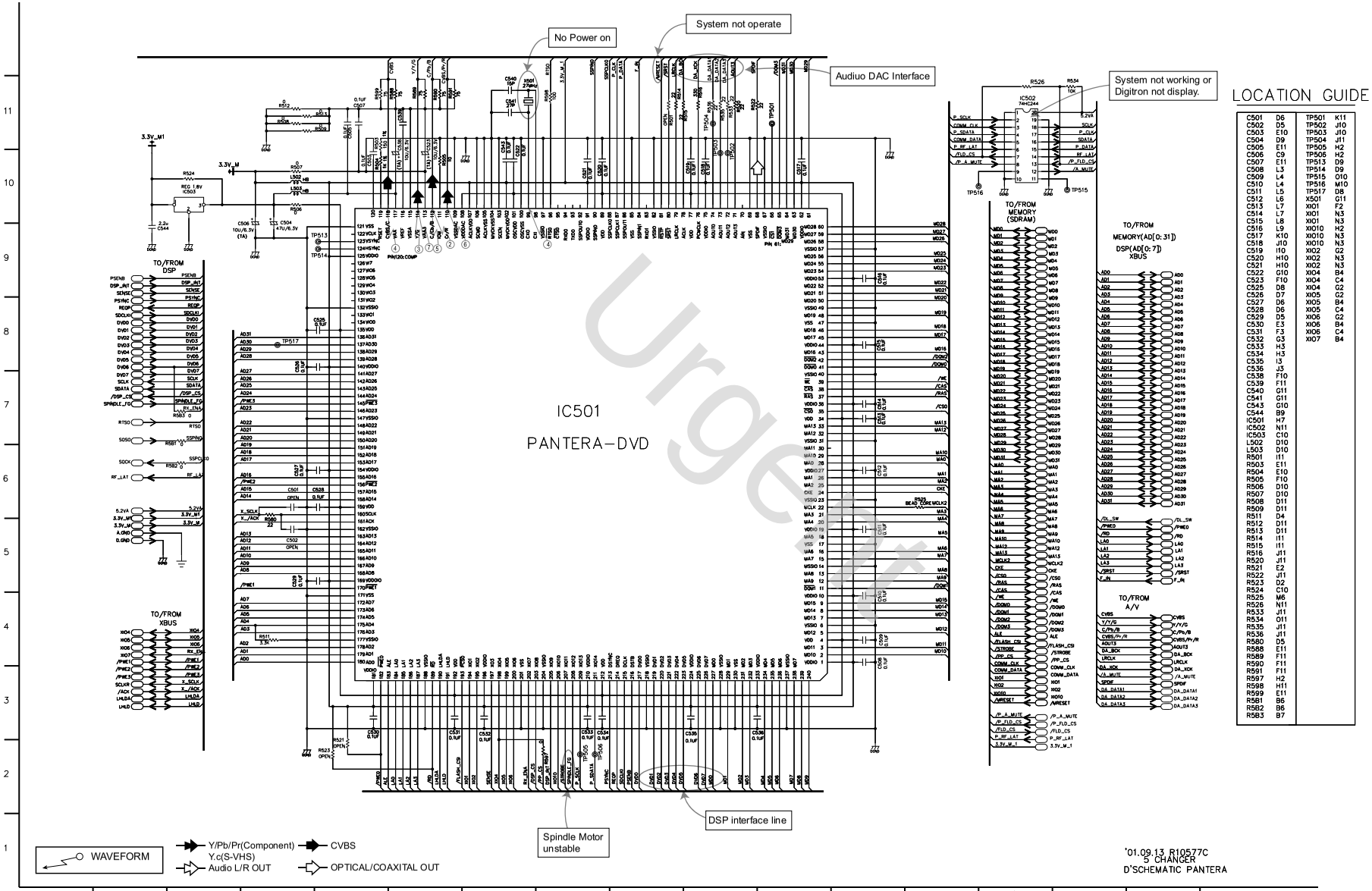


LOCATION GUIDE

C2A0	H2	D2A2	L2	R2M7	D5
C2A1	H6	IC2A1	I5	R2M8	C5
C2A2	H6	IC2A2	H2	R2M9	C5
C2A3	H6	IC2A3	G7	R2N0	D5
C2A4	I6	IC2M1	E5	R2N1	C5
C2A5	I6	L2A1	K6	R2N2	C5
C2A6	I7	L2A2	B7	R2N3	D5
C2A7	I6	Q2A1	J3	R2N4	C4
C2A8	J6	Q2A2	J2	R2N5	C4
C2A9	J6	Q2M1	D3	R2N6	C4
C2B0	K5	Q2M2	D3	R2N7	C4
C2B1	K5	Q2M3	C2	R2N8	B5
C2B2	J5	R2A0	K6	R2N9	B5
C2B3	J4	R2A1	H8	R2P1	B5
C2B4	K3	R2A2	I6	R2P2	E4
C2B5	J3	R2A3	J6	R2P3	E3
C2B6	J3	R2A5	K6	R2P4	D2
C2B7	J3	R2A6	K6	R2P5	C3
C2B8	J3	R2A8	K5	R2P6	C3
C2B9	I3	R2A9	K4	R2P7	C6
C2C0	H5	R2B0	K4	R2P8	E6
C2C1	H5	R2B1	K4	R2Q1	E7
C2C2	H5	R2B2	K3	R2Q2	C4
C2C3	H5	R2B3	J3	R2Q3	C4
C2C4	H5	R2B4	J3	R2Q4	C3
C2C5	K3	R2B5	J3	R2Q5	C3
C2C6	K5	R2B7	H3	R2Q6	B5
C2C7	K5	R2B8	H4	R2Q7	I3
C2C8	H4	R2B9	H4	R2Q8	H2
C2C9	H4	R2C0	G4	R2R1	G7
C2D0	K2	R2C1	H4	TP2A1	K5
C2D1	J2	R2C2	I2	TP2A2	K5
C2D2	K6	R2C3	I2	TP2A3	K5
C2D3	J3	R2C4	I7	TP2A4	H6
C2D4	C7	R2C6	J5	TP2A6	K4
C2D5	C7	R2C7	K5	TP2A8	K7
C2D6	D7	R2C8	J2	TZC	L5
C2D7	I2	R2C9	J2	VC	F7
C2D8	H6	R2D0	J2	VC	F6
C2D9	H7	R2D1	K3	VC	C7
C2E0	G6	R2D2	H7	VREF	L2
C2E1	H4	R2D3	H7		
C2M1	E7	R2D4	H6		
C2M2	C6	R2D5	H6		
C2M3	C5	R2D6	H8		
C2M4	C5	R2D7	D7		
C2M5	C4	R2E1	F7		
C2M6	F3	R2E2	F7		
C2M7	F3	R2E3	F7		
C2M8	F3	R2E4	F7		
C2M9	G3	R2E5	G6		
C2N1	D3	R2E6	H6		
C2N2	C3	R2E7	H3		
C2N3	D6	R2E8	H4		
C2N4	E7	R2E9	H3		
C2N5	G3	R2M1	C6		
CD_PD	G7	R2M2	C6		
CD_PD	F4	R2M3	D6		
D.GND	A6	R2M5	C5		
D2A1	K3	R2M6	C5		

For Service

4. PANTERA CIRCUIT DIAGRAM

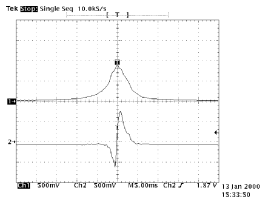


C501	D6	TP501	K11
C502	D5	TP502	J10
C503	E10	TP503	J10
C504	D9	TP504	J11
C505	E11	TP505	H2
C506	C9	TP506	H2
C507	E11	TP513	D9
C508	L3	TP514	D9
C509	L4	TP515	O10
C510	L4	TP516	M10
C511	L5	TP517	D8
C512	L6	X501	G11
C513	L7	XI01	F2
C514	L7	XI01	N3
C515	L8	XI01	N3
C516	L9	XI010	H2
C517	K10	XI010	N3
C518	J10	XI010	N3
C519	I10	XI02	G2
C520	H10	XI02	N3
C521	H10	XI02	N3
C522	G10	XI04	B4
C523	F10	XI04	C4
C525	D8	XI04	G2
C526	D7	XI05	G2
C527	D6	XI05	B4
C528	D6	XI05	C4
C529	D5	XI06	G2
C530	E3	XI06	B4
C531	F3	XI06	C4
C532	G3	XI07	B4
C533	H3		
C534	H3		
C535	I3		
C536	J3		
C538	F10		
C539	F11		
C540	G11		
C541	G11		
C543	D10		
C544	B9		
IC501	H7		
IC502	N11		
IC503	C10		
L502	D10		
L503	D10		
R501	I11		
R503	E11		
R504	E10		
R505	F10		
R506	D10		
R507	D10		
R508	D11		
R509	D11		
R511	D4		
R512	D11		
R513	D11		
R514	I11		
R515	I11		
R516	J11		
R520	J11		
R521	E2		
R522	J11		
R523	D2		
R524	C10		
R525	M6		
R526	N11		
R533	J11		
R534	O11		
R535	J11		
R536	J11		
R580	D5		
R588	E11		
R589	F11		
R590	F11		
R591	F11		
R597	H2		
R598	H11		
R599	E11		
R581	B6		
R582	B6		
R583	B7		

Urgent

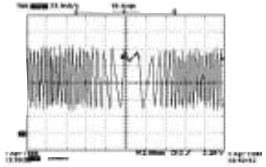
• WAVEFORMS

①



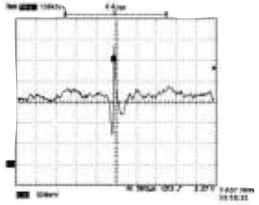
IC2A1 Pin 42, Focus Error
IC2A1 Pin 36, Pi

②



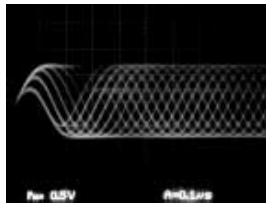
IC2A1 Pin 41
Tracking Error

③



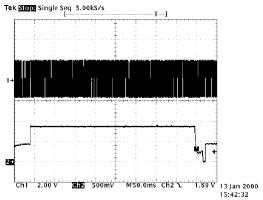
IC2A1 Pin 41
VBR TRACKING Error

④



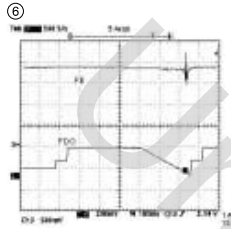
IC2A1 Pin 57,
RF

⑤



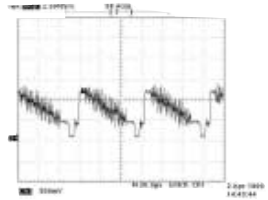
IC201 Pin 88, SLED Drive(FMO)
IC201 Pin 18, SLED FG

⑥



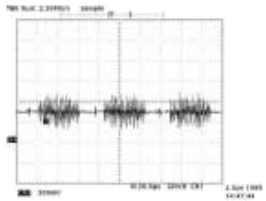
IC2A1 Pin42, Focus Error(in Focus Search)
IC201 Pin 83, Focus Drive(FDO)

①



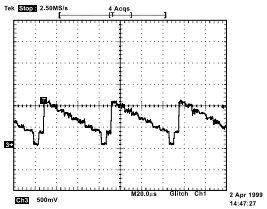
IC501 Pin 118, Composite

②



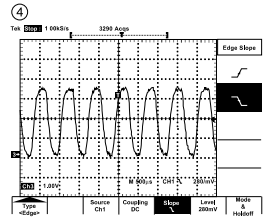
IC501 Pin 112, Chrominance
(Super video out Mode)

③



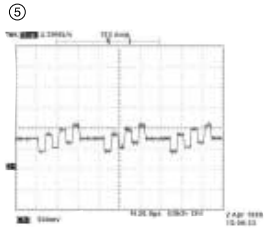
IC501 Pin 114, Luminance
(Super video out Mode)

④



IC501 Pin 99,
PANTER MAIN

⑤

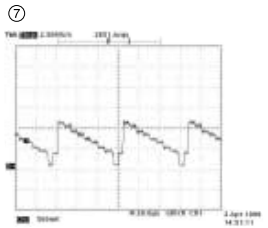


IC501 Pin 112
Component Pb

⑥

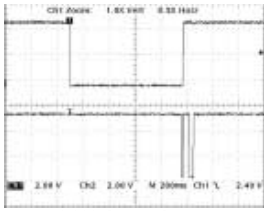
IC501 Pin 110
Component Pr

⑦



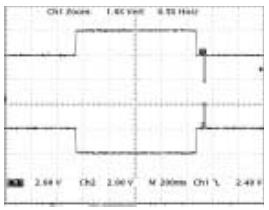
IC501 Pin 114
Component Y

①



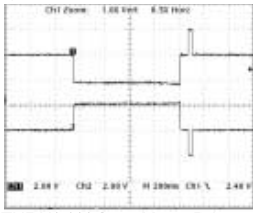
TURN(+)(-) Signal from µ-com

②



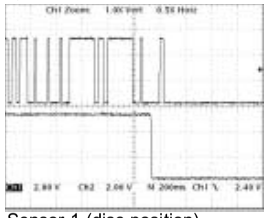
TURN(+)(-) from Motor Drive
Forward turn

③



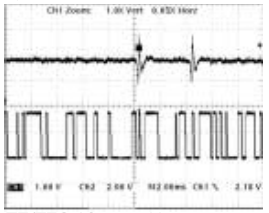
TURN(+)(-) from Motor Drive
Reverse turn

④



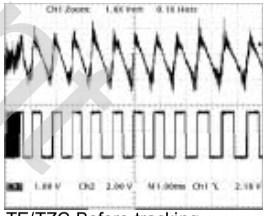
Sensor 1 (disc position)
Sensor 2 (disc ready)

⑤



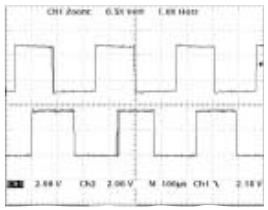
TE/TZC After tracking
servo ON (Play mode)

⑥



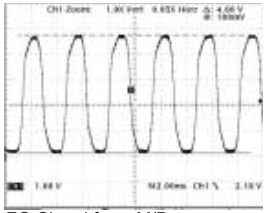
TE/TZC Before tracking
servo ON

⑦



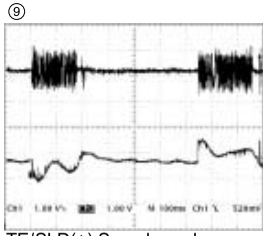
TZC/MIRR (Search mode)

⑧



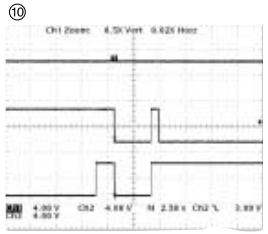
FG Signal from M/D
(Play mode)

⑨



TE/SLD(+) Search mode
(outter & inner)

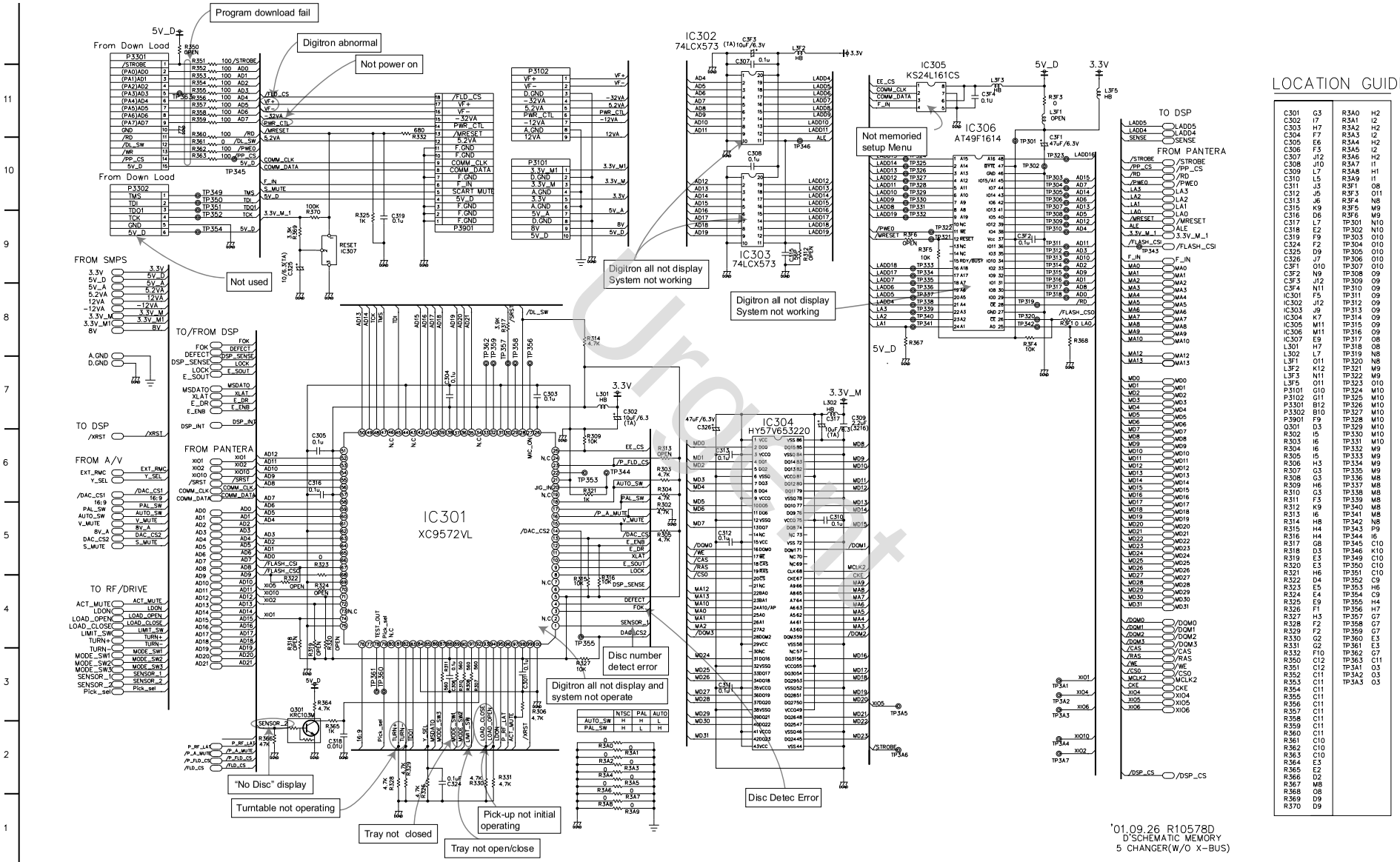
⑩



Tray open Tray closed

Urgent

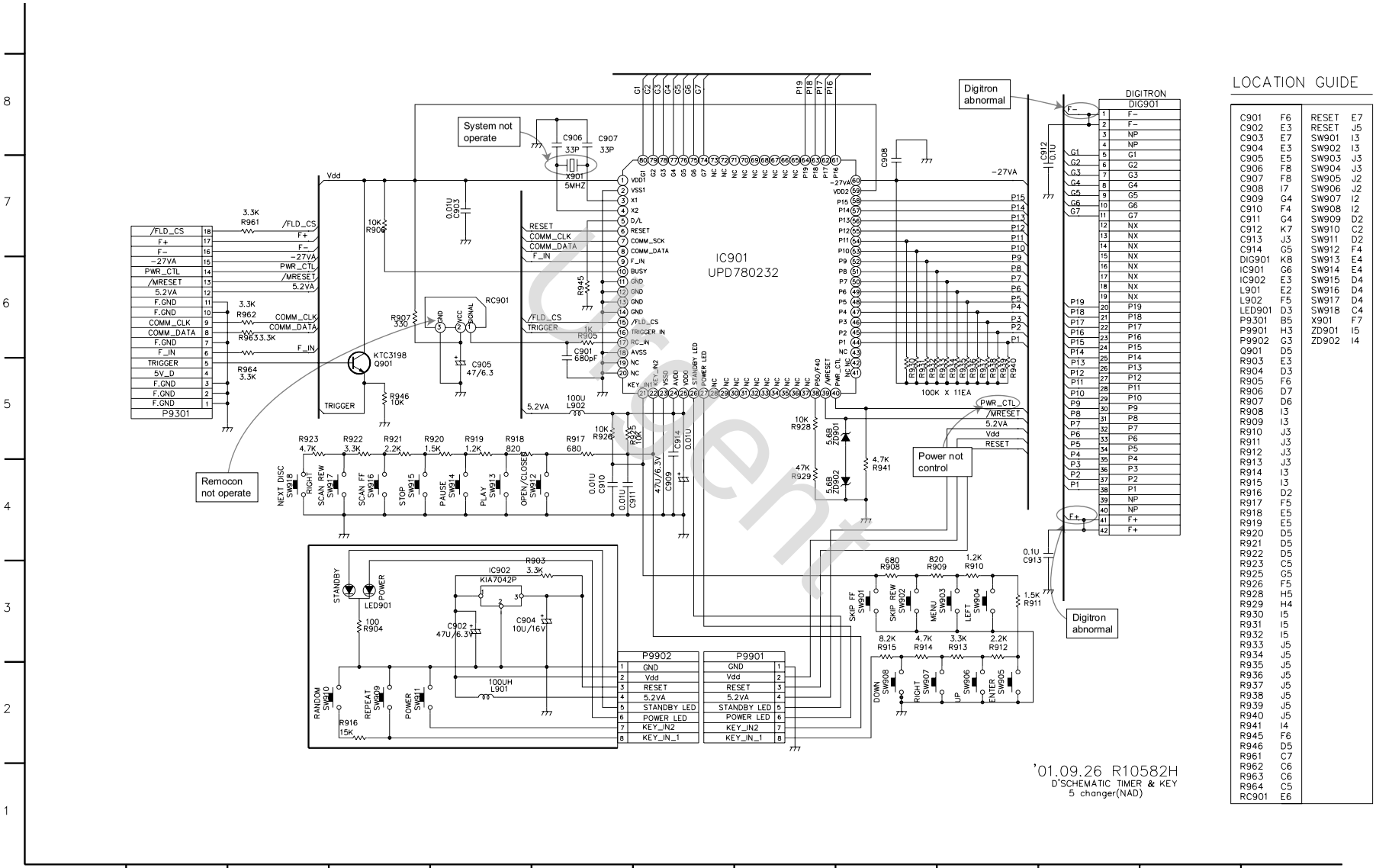
5. MEMORY CIRCUIT DIAGRAM



LOCATION GUIDE

C301	G3	R3A0	H2
C302	I7	R3A1	I2
C303	H7	R3A2	H2
C304	F7	R3A3	I2
C305	E6	R3A4	H2
C306	F3	R3A5	I2
C307	J12	R3A6	H2
C308	J10	R3A7	I1
C309	L7	R3A8	H1
C310	L5	R3A9	I1
C311	J3	R3F1	O8
C312	J5	R3F3	O11
C313	J6	R3F4	N8
C315	K9	R3F5	M9
C316	D6	R3F6	M9
C317	L7	TP301	N10
C318	E2	TP302	N10
C319	F9	TP303	O10
C324	F2	TP304	O10
C325	D9	TP305	O10
C326	J7	TP306	O10
C3F1	O10	TP307	O10
C3F2	N9	TP308	O9
C3F3	J12	TP309	O9
C3F4	N11	TP310	O9
IC301	F5	TP311	O9
IC302	J12	TP312	O9
IC303	J9	TP313	O9
IC304	K7	TP314	O9
IC305	M11	TP315	O9
IC306	M11	TP316	O9
IC307	E9	TP317	O8
L301	H7	TP318	O8
L302	L7	TP319	N8
L3F1	O11	TP320	N8
L3F2	K12	TP321	M9
L3F3	N11	TP322	M9
L3F5	O11	TP323	O10
P3101	G10	TP324	M10
P3102	G11	TP325	M10
P3301	B12	TP326	M10
P3302	B10	TP327	M10
P3901	F9	TP328	M10
Q301	D3	TP329	M10
R302	I5	TP330	M10
R303	I6	TP331	M10
R304	I6	TP332	M9
R305	I5	TP333	M9
R306	H3	TP334	M9
R307	G3	TP335	M9
R308	G3	TP336	M8
R309	H6	TP337	M8
R310	G3	TP338	M8
R311	F3	TP339	M8
R312	K9	TP340	M8
R313	I6	TP341	M8
R314	H8	TP342	N8
R315	H4	TP343	P9
R316	H4	TP344	I6
R317	G8	TP345	C10
R318	D3	TP346	K10
R319	E3	TP349	C10
R320	E3	TP350	C10
R321	H6	TP351	C10
R322	D4	TP352	C9
R323	E5	TP353	H6
R324	E4	TP354	C9
R325	E9	TP355	H4
R326	F1	TP356	H7
R327	H3	TP357	G7
R328	F2	TP358	G7
R329	F2	TP359	G7
R330	G2	TP360	E3
R331	G2	TP361	E3
R332	F10	TP362	G7
R350	C12	TP363	C11
R351	C12	TP3A1	O3
R352	C11	TP3A2	O3
R353	C11	TP3A3	O3
R354	C11		
R355	C11		
R356	C11		
R357	C11		
R358	C11		
R359	C11		
R360	C11		
R361	C10		
R362	C10		
R363	C10		
R364	E3		
R365	E2		
R366	D2		
R367	M8		
R368	O8		
R369	D9		
R370	D9		

6. TIMER & KEY CIRCUIT DIAGRAM

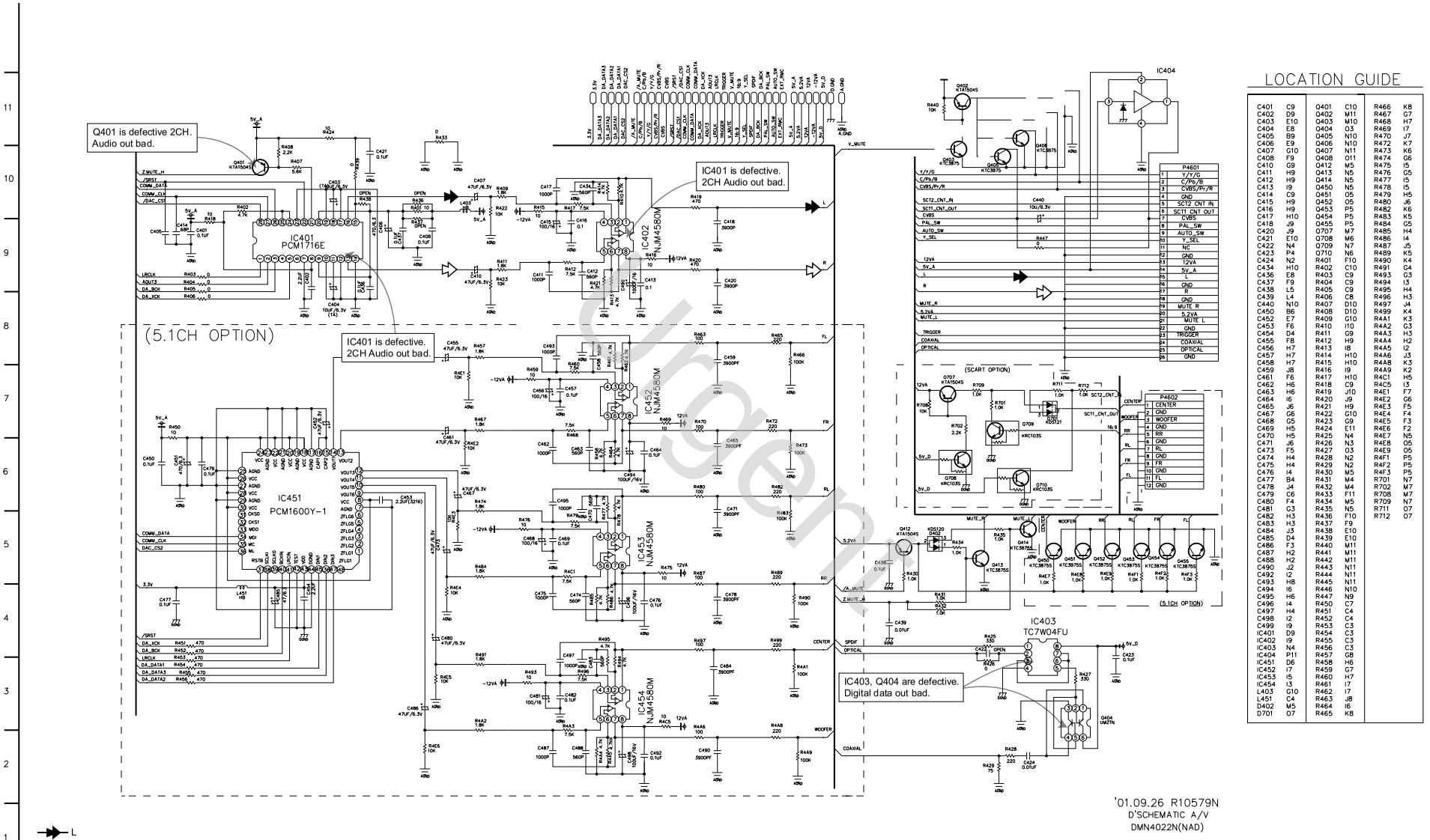


LOCATION GUIDE

C901	F6	RESET	E7
C902	E3	RESET	J5
C903	E7	SW901	I3
C904	E3	SW902	I3
C905	E5	SW903	J3
C906	F8	SW904	J3
C907	F8	SW905	J2
C908	I7	SW906	J2
C909	G4	SW907	I2
C910	F4	SW908	I2
C911	G4	SW909	D2
C912	K7	SW910	C2
C913	J3	SW911	D2
C914	G5	SW912	F4
DIG901	K8	SW913	E4
IC901	G6	SW914	E4
IC902	E3	SW915	D4
L901	E2	SW916	D4
L902	F5	SW917	D4
LED901	D3	SW918	C4
P9301	B5	X901	F7
P9901	H3	ZD901	I5
P9902	G3	ZD902	I4
Q901	D5		
R903	E3		
R904	D3		
R905	F6		
R906	D7		
R907	D6		
R908	I3		
R909	I3		
R910	J3		
R911	J3		
R912	J3		
R913	J3		
R914	I3		
R915	I3		
R916	D2		
R917	F5		
R918	E5		
R919	E5		
R920	D5		
R921	D5		
R922	D5		
R923	C5		
R925	G5		
R926	F5		
R928	H5		
R929	H4		
R930	I5		
R931	I5		
R932	I5		
R933	J5		
R934	J5		
R935	J5		
R936	J5		
R937	J5		
R938	J5		
R939	J5		
R940	J5		
R941	I4		
R945	F6		
R946	D5		
R961	C7		
R962	C6		
R963	C6		
R964	C5		
RC901	E6		

Sample

7. A/V CIRCUIT DIAGRAM

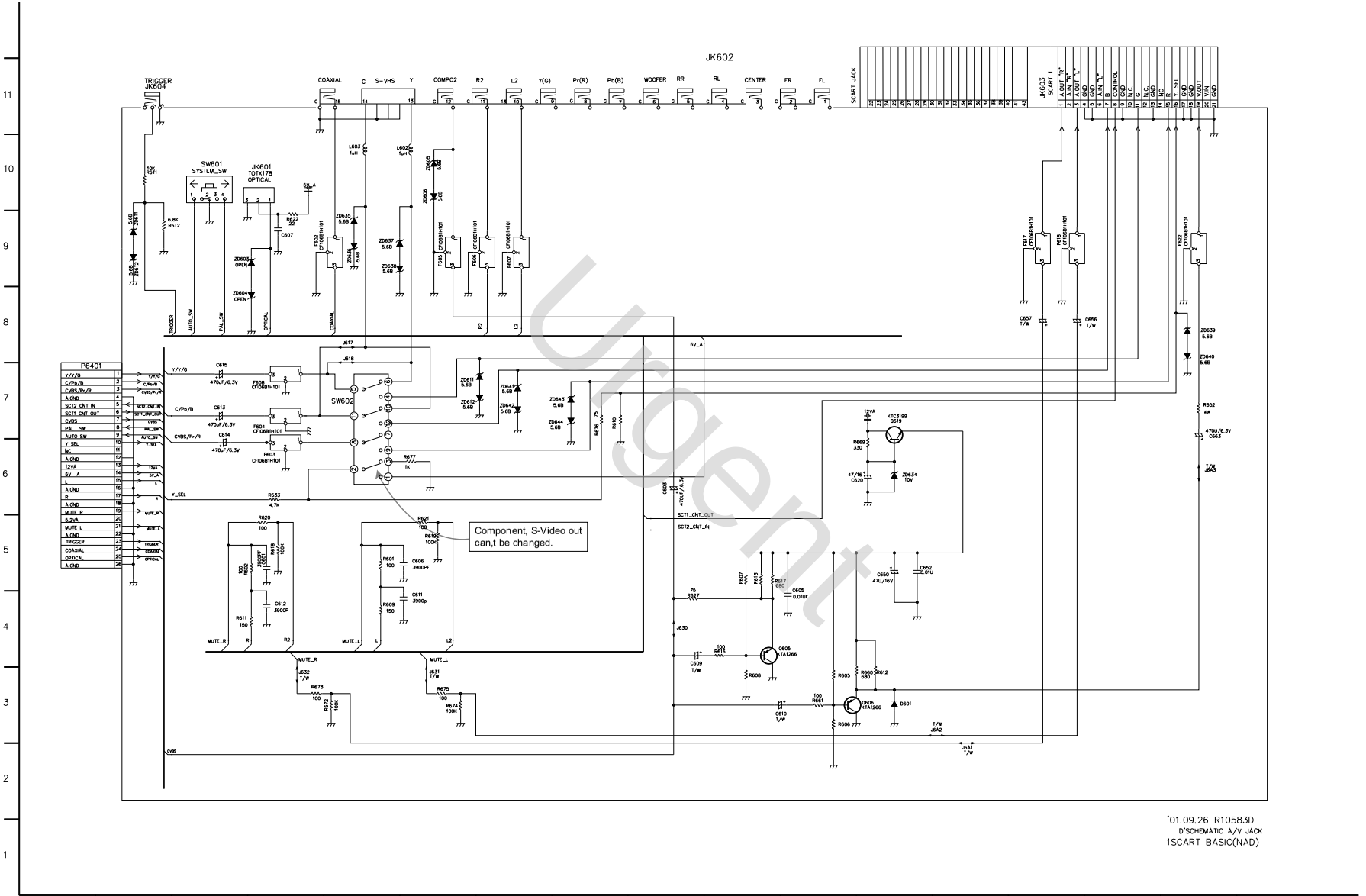


LOCATION GUIDE

C401	C9	Q401	C10	R466	K8
C402	D9	Q402	M11	R467	G7
C403	E10	Q403	M10	R468	H7
C404	E8	Q404	O3	R469	I7
C405	B9	Q405	N10	R470	J7
C406	E9	Q406	N10	R472	K7
C407	G10	Q407	N11	R473	K6
C408	F9	Q408	O11	R474	G6
C410	G9	Q412	M5	R475	I5
C411	H9	Q413	N5	R476	G5
C412	H9	Q414	N5	R477	I5
C413	I9	Q450	N5	R478	I5
C414	C9	Q451	O5	R479	H5
C415	H9	Q452	O5	R480	J6
C416	H9	Q453	P5	R482	K6
C417	H10	Q454	P5	R483	K5
C418	J9	Q455	P5	R484	G5
C420	J9	Q707	M7	R485	H4
C421	E10	Q708	M6	R486	I4
C422	N4	Q709	N7	R487	J5
C423	P4	Q710	N6	R489	K5
C424	N2	R401	F10	R490	K4
C434	H10	R402	C10	R491	G4
C436	E8	R403	C9	R493	G3
C437	F9	R404	C9	R494	I3
C438	L5	R405	C9	R495	H4
C439	L4	R406	C8	R496	H3
C440	N10	R407	D10	R497	J4
C450	B6	R408	D10	R499	K4
C452	E7	R409	G10	R4A1	K3
C453	F6	R410	I10	R4A2	G3
C454	D4	R411	G9	R4A3	H3
C455	F8	R412	H9	R4A4	H2
C456	H7	R413	I8	R4A5	I2
C457	H7	R414	H10	R4A6	J3
C458	H7	R415	H10	R4A8	K3
C459	J8	R416	I9	R4A9	K2
C461	F6	R417	H10	R4C1	H5
C462	H6	R418	C9	R4C5	I3
C463	H6	R419	J10	R4E1	F7
C464	I6	R420	J9	R4E2	G6
C465	J6	R421	H9	R4E3	F5
C467	G6	R422	G10	R4E4	F4
C468	G5	R423	G9	R4E5	F3
C469	H5	R424	E11	R4E6	F2
C470	H5	R425	N4	R4E7	N5
C471	J6	R426	N3	R4E8	O5
C473	F5	R427	O3	R4E9	O5
C474	H4	R428	N2	R4F1	P5
C475	H4	R429	N2	R4F2	P5
C476	I4	R430	M5	R4F3	P5
C477	B4	R431	M4	R701	N7
C478	J4	R432	M4	R702	M7
C479	C6	R433	F11	R708	M7
C480	F4	R434	M5	R709	N7
C481	G3	R435	N5	R711	O7
C482	H3	R436	F10	R712	O7
C483	H3	R437	F9		
C484	J3	R438	E10		
C485	D4	R439	E10		
C486	F3	R440	M11		
C487	H2	R441	M11		
C488	H2	R442	M11		
C490	J2	R443	N11		
C492	I2	R444	N11		
C493	H8	R445	N11		
C494	I6	R446	N10		
C495	H6	R447	N9		
C496	I4	R450	C7		
C497	H4	R451	C4		
C498	I2	R452	C4		
C499	I9	R453	C3		
IC401	D9	R454	C3		
IC402	I9	R455	C3		
IC403	N4	R456	C3		
IC404	P11	R457	G8		
IC451	D6	R458	H6		
IC452	I7	R459	G7		
IC453	I5	R460	H7		
IC454	I3	R461	I7		
L403	G10	R462	I7		
L451	C4	R463	J8		
D402	M5	R464	I6		
D701	O7	R465	K8		

Preview

8. A/V JACK CIRCUIT DIAGRAM



• CIRCUIT VOLTAGE CHART

MODE / PIN NO.	LEVEL(V)
PANTERA	
IC501	
1	3.18
2	1.3
3	1.4
4	2.2
5	1.5
6	0
7	1.5
8	1.4
9	1.6
10	3.1
11	0.7
12	0.15
13	0.15
14	0
15	0
16	1.7
17	1.4
18	0
19	1.5
20	1.6
21	0
22	1.6
23	0
24	3.1
25	1.7
26	1.4
27	3.1
28	1.5
29	0.15
30	
31	0
32	0.7
33	1.5
34	2.2
35	2
36	3.1
37	2.9
38	2.2
39	2.9
40	0
41	0
42	0
43	1.6
44	3.1
45	1.6
46	1.5
47	0
48	1.4
49	0
50	1.5
51	1.7
52	1.2
53	3.1

MODE / PIN NO.	LEVEL(V)
54	1.6
55	1.4
56	1.5
57	0
58	1.6
59	1.4
60	1.5
61	1.4
62	3.1
63	1
64	1.5
65	0.005
66	0.5
67	0.003
68	1.58
69	0
70	3.1
71	1.2
72	1.2
73	1.2
74	1.2
75	3.1
76	1.65
77	2.2
78	1.5
79	1.5
80	3.1
81	3.1
82	0.001
83	3.1
84	3.7
85	0
86	
87	3.1
88	3.1
89	2.1
90	0.004
91	3.1
92	0
93	
94	
95	
96	
97	0
98	
99	
100	0
101	2.1
102	3.1
103	0
104	0
105	0
106	0
107	2.1
108	2.1

MODE / PIN NO.	LEVEL(V)
109	0
110	0.8
111	0.9
112	1.3
113	3.1
114	0.78
115	0
116	1.26
117	2.38
118	0.08
119	1.2
120	2
121	0
122	3.1
123	3.1
124	3.1
125	3.1
126	
127	
128	
129	
130	
131	
132	0
133	
134	
135	2.2
136	
137	3.1
138	3.1
139	3.1
140	3.1
141	3.1
142	3.1
143	3.1
144	3.1
145	3.1
146	3.1
147	0
148	3.1
149	3.1
150	3.1
151	3.1
152	3.1
153	3.1
154	3.1
155	3.1
156	3.1
157	3.1
158	3.1
159	2.2
160	1.5
161	3.1
162	
163	0

MODE / PIN NO.	LEVEL(V)
164	3.1
165	3.1
166	3.1
167	3.1
168	3.1
169	3.1
170	3.1
171	0
172	3.1
173	3.1
174	3.1
175	1.5
176	3.1
177	0
178	3.1
179	3.1
180	3.1
181	3.1
182	3.18
183	0.086
184	3
185	2.4
186	2.3
187	0
188	0
189	3.1
190	0
191	0.017
192	2.2
193	3.1
194	3.1
195	0
196	3.18
197	1.3
198	3.1
199	3.1
200	3.1
201	0
202	2.3
203	3.1
204	0.001
205	3.1
206	3.1
207	3.1
208	1.6
209	3.1
210	3.18
211	0.018
212	2.2
213	3.19
214	2.69
215	1.5
216	2.9
217	2.59
218	0

MODE / PIN NO.	LEVEL(V)
219	2.29
220	2.08
221	2.29
222	2.29
223	2.49
224	3.1
225	2.39
226	2.45
227	1.5
228	0
229	1.52
230	0
231	1.61
232	1.6
233	3.1
234	1.6
235	1.6
236	1.5
237	0
238	1.6
239	1.4
240	1.5

MODE / PIN NO.	LEVEL(V)
MEMORY	
IC301	
1	4.3
2	
3	3.1
4	0
5	3.2
6	2
7	
8	3.1
9	0.01
10	3.1
11	3.2
12	3.2
13	3.2
14	3.2
15	0
16	3.1
17	3.1
18	3.1
19	
20	0
21	0
22	0
23	3
24	
25	0.625
26	3.2
27	0.705
28	3.2
29	3.1
30	
31	0
32	
33	
34	
35	3.1
36	3.1
37	2.39
38	3.2
39	1.49
40	1.5
41	3.09
42	1.69
43	0
44	3.1
45	
46	3.1
47	
48	2.5
49	3.1
50	3.1
51	3.2
52	3.1
53	3.1

MODE / PIN NO.	LEVEL(V)
54	3.1
55	3.1
56	3.1
57	3.1
58	3.1
59	3.1
60	3.1
61	0.5
62	0
63	3.1
64	3.1
65	3.1
66	3.1
67	3.1
68	1.6
69	0
70	0
71	3.1
72	0
73	
74	3.1
75	0
76	3.2
77	0
78	3.1
79	0.3
80	
81	0
82	0
83	2.5
84	0
85	3.19
86	3.19
87	4.4
88	3.19
89	4.4
90	0
91	4.4
92	0
93	0
94	0
95	0
96	0
97	3.17
98	3.17
99	3.1
100	0

MODE / PIN NO.	EE	PLAY
DSP		
IC201 SP3301		
1	2.00	1.30
2	2.00	1.30
3	2.00	1.30
4	2.00	1.30
5	2.00	1.30
6	2.00	1.30
7	2.00	1.30
8	2.00	1.30
9	2.00	1.30
10	2.00	1.30
11	2.00	1.30
12	2.00	1.30
13	2.00	1.30
14	2.00	1.30
15	2.00	1.30
16	2.00	1.30
17	0.00	0.00
18	0.00	1.50
19	0.00	1.50
20	0.00	1.50
21	0.00	1.50
22	3.10	3.00
23	0.00	1.50
24	0.00	1.50
25	0.00	1.50
26	0.00	1.50
27	0.00	1.50
28	2.10	1.50
29	0.00	0.00
30	2.10	2.00
31	3.10	3.00
32	3.10	1.50
33	3.10	2.50
34	3.10	2.50
35	2.10	1.30
36	1.10	1.80
37	0.00	0.00
38	0.00	0.00
39	0.00	0.00
40	3.10	3.00
41	0.00	0.00
42	3.10	3.00
43	0.00	0.00
44	0.00	0.00
45	3.10	3.00
46	0.00	0.00
47	0.00	0.00
48	0.00	0.00
49	0.00	3.00
50	0.00	0.00
51	0.00	0.00
52	3.10	1.80
53	0.00	0.00

MODE / PIN NO.	EE	PLAY
54	3.10	3.00
55	3.10	3.00
56	0.00	0.00
57	0.00	3.13
58	5.00	4.98
59	0.00	0.00
60	0.00	0.00
61	5.00	4.98
62	0.00	0.00
63	2.10	2.10
64	0.00	0.00
65	3.10	3.00
66	0.00	0.00
67	3.10	3.12
68	0.00	0.00
69	0.00	0.20
70	0.00	0.00
71	3.10	3.10
72	0.00	0.20
73	0.00	0.00
74	3.10	3.10
75	0.00	0.00
76	0.00	0.00
77	0.00	0.00
78	0.00	2.30
79	3.10	3.10
80	5.00	5.00
81	0.00	0.00
82	5.00	5.00
83	2.10	2.00
84	2.10	2.10
85	3.10	3.10
86	1.40	1.40
87	0.00	0.00
88	2.10	2.00
89	2.10	2.00
90	0.00	0.00
91	1.50	1.55
92	3.10	3.12
93	1.60	1.55
94	1.10	1.11
95	2.00	2.00
96	1.55	1.55
97	0.00	0.00
98	1.55	1.55
99	1.56	2.15
100	3.10	3.10
101	1.55	1.58
102	1.55	1.55
103	1.62	1.64
104	1.55	1.55
105	1.50	1.50
106	0.00	0.00
107	0.00	0.00
108	0.00	0.00

MODE / PIN NO.	EE	PLAY
109	0.00	0.00
110	0.00	0.00
111	0.00	0.00
112	0.00	0.00
113	3.40	4.70
114	5.00	5.00
115	1.50	1.50
116	1.50	1.53
117	3.10	3.10
118	0.00	0.00
119	0.00	0.00
120	3.50	4.20
121	3.25	4.20
122	3.45	4.30
123	3.50	4.30
124	3.50	4.30
125	3.50	4.50
126	0.00	0.00
127	3.60	2.60
128	0.00	0.00
129	3.60	2.60
130	0.00	0.20
131	0.00	0.00
132	0.00	3.10
133	3.10	3.10
134	0.00	0.00
135	0.00	0.00
136	3.10	2.20
137	0.00	0.00
138	0.00	0.00
139	3.10	3.10
140	3.00	3.10
141	0.00	0.00
142	3.00	3.00
143	3.10	3.10
144	3.10	3.10
145	3.10	0.90
146	3.50	4.50
147	0.00	0.00
148	0.00	0.00
149	0.00	0.00
150	0.00	0.00
151	0.00	0.00
152	0.00	0.00
153	0.00	0.00
154	0.00	0.00
155	1.55	1.55
156	3.10	3.10
157	1.50	1.50
158	0.00	0.00
159	0.00	0.00
160	2.60	2.60
161	3.10	3.10
162	2.00	2.00
163	2.00	2.00

Original

MODE / PIN NO.	EE	PLAY
164	1.40	1.40
165	3.20	0.00
166	1.60	1.75
167	0.00	0.00
168	0.00	3.10
169	0.00	3.10
170	5.00	2.50
171	0.00	2.50
172	3.10	0.00
173	3.10	3.10
174	3.10	3.10
175	3.10	3.10
176	2.53	1.30
177	4.24	4.97
178	5.00	5.00
179	2.70	0.20
180	3.26	2.30
181	3.10	2.50
182	2.40	2.50
183	3.66	2.80
184	2.40	2.50
185	0.00	0.00
186	2.26	2.00
187	3.10	3.10
188	2.20	2.40
189	1.75	1.90
190	2.20	1.80
191	1.80	1.80
192	2.20	2.20
193	1.25	1.30
194	1.00	1.10
195	5.00	5.00
196	0.00	2.25
197	0.00	1.60
198	0.00	1.50
199	0.00	1.50
200	0.00	1.50
201	0.00	1.50
202	0.00	1.50
203	0.00	1.50
204	0.00	1.50
205	3.10	2.60
206	1.50	1.50
207	3.10	3.10
208	3.10	3.10
S E R V O		
IC2A1 33P3721		
1	3.44	3.38
2	3.12	3.40
3	2.50	2.50
4	2.51	2.53
5	3.50	3.44
6	3.46	3.44
7	3.47	3.45
8	3.47	3.44

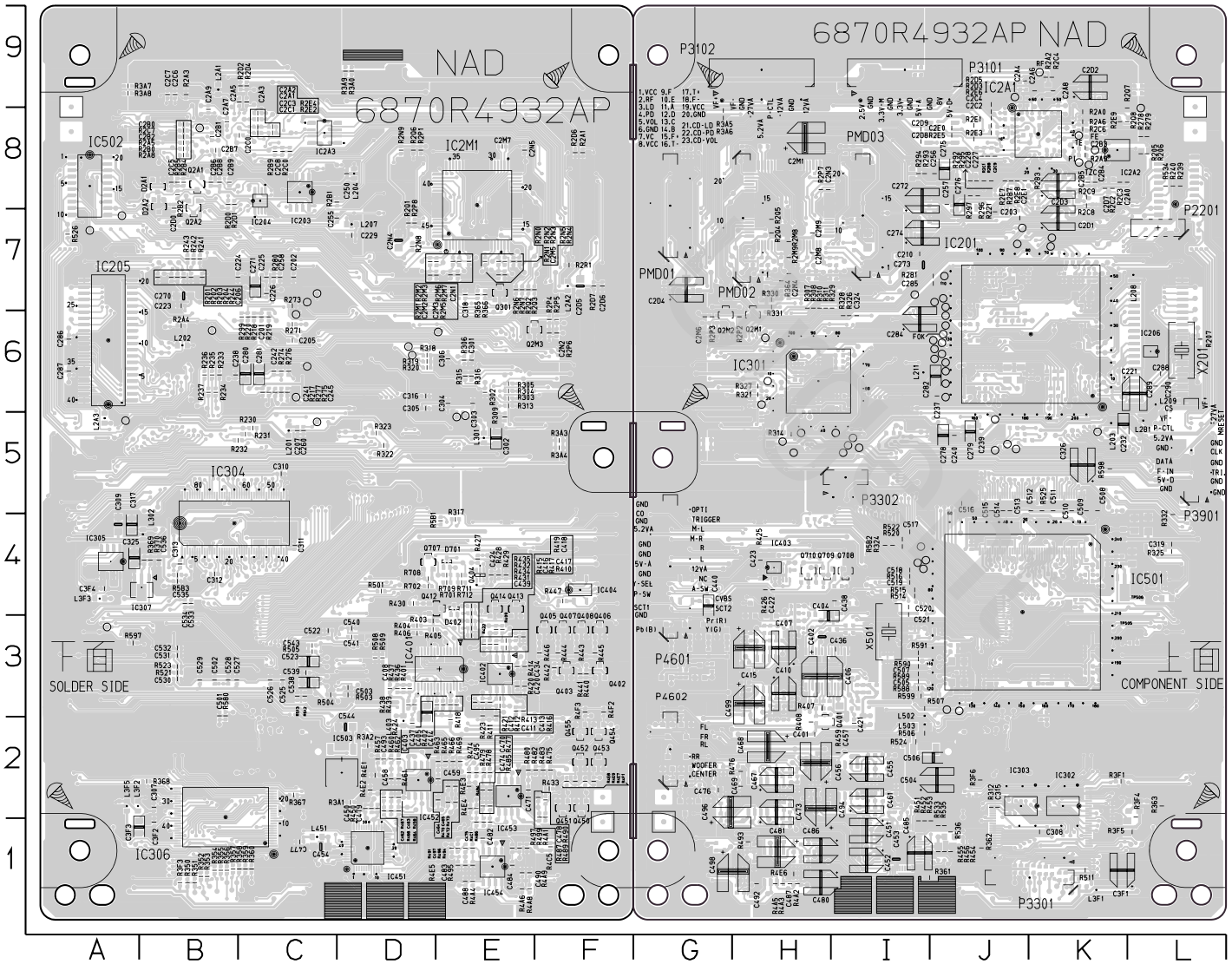
MODE / PIN NO.	EE	PLAY
9	3.48	3.44
10	3.43	3.41
11	2.52	2.70
12	2.52	2.70
13	2.52	2.60
14	2.52	2.60
15	2.56	2.70
16	2.48	2.50
17	2.98	3.30
18	0.00	0.00
19	4.50	4.58
20	0.00	0.00
21	0.00	0.20
22	4.96	3.85
23	0.00	0.00
24	4.95	4.92
25	5.00	0.00
26	2.52	2.50
27	1.55	1.55
28	4.97	4.93
29	0.00	0.40
30	2.55	2.63
31	2.51	2.56
32	4.90	4.65
33	0.00	0.20
34	0.00	2.60
35	0.00	2.50
36	1.56	2.15
37	3.58	0.00
38	2.62	3.20
39	0.00	2.60
40	2.50	2.60
41	1.55	1.60
42	1.46	1.65
43	1.58	1.64
44	2.52	2.50
45	4.92	4.97
46	4.99	5.00
47	0.00	0.00
48	0.00	0.00
49	3.59	0.00
50	0.00	0.00
51	2.35	0.00
52	2.37	2.30
53	3.51	3.47
54	3.51	3.46
55	0.61	0.00
56	1.67	2.42
57	2.95	2.88
58	4.98	4.93
59	3.48	3.40
60	3.48	3.40
61	3.71	3.70
62	3.75	3.70
63	0.27	0.36

MODE / PIN NO.	EE	PLAY
64	2.40	0.90

Urgent

PRINTED CIRCUIT DIAGRAMS

1. MAIN P.C.BOARD

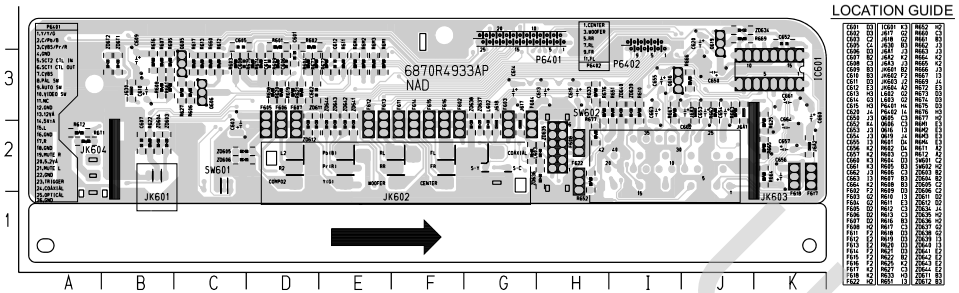


LOCATION GUIDE

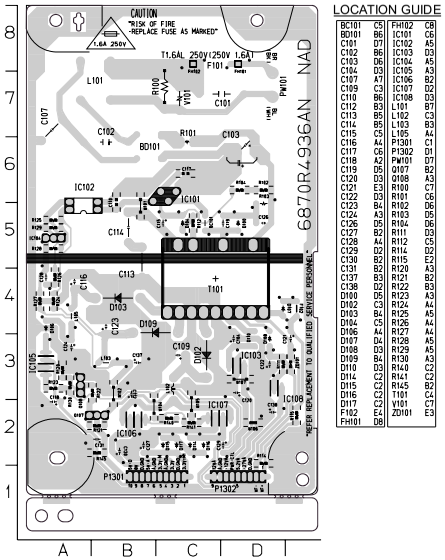
C201	C6	C302	E5	C501	B3	L3F5	A2	R2A8	B8	R322	D5	R433	F2	R4C1	E1
C202	C7	C303	E6	C502	B3	L403	D2	R2B0	B8	R323	D5	R434	E3	R4C5	E2
C205	C6	C304	E6	C503	D3	L451	C1	R2B1	D8	R350	B1	R435	E4	R4E1	D2
C206	B7	C305	D6	C522	C3	Q2A1	B8	R2B2	B8	R351	B1	R436	D3	R4E2	D2
C207	C5	C306	E6	C523	C3	Q2A2	B8	R2B4	B8	R352	B1	R437	D3	R4E3	E2
C223	B7	C307	B2	C525	C3	Q2M3	F6	R2B5	B8	R353	B1	R438	D3	R4E4	E2
C224	C7	C309	A4	C526	C3	Q301	E7	R2B9	C8	R354	B1	R439	D3	R4E5	E1
C225	C7	C310	C5	C527	B3	Q402	F3	R2C0	C8	R355	B1	R440	F3	R4E7	F2
C226	B7	C311	A4	C528	B3	Q403	F3	R2C7	B8	R356	B1	R441	F3	R4E8	F2
C229	D7	C312	B4	C529	B3	Q404	E4	R2D0	B8	R357	B1	R442	F3	R4E9	F2
C238	B6	C313	B4	C530	B3	Q405	F3	R2D1	B8	R358	C1	R443	F3	R4F1	F2
C241	C6	C316	D6	C531	B3	Q406	F3	R2D2	C9	R359	C1	R444	F3	R4F2	F3
C242	C6	C317	A4	C532	B3	Q407	F3	R2D4	C9	R360	C1	R445	F3	R4F3	F3
C245	C6	C318	E7	C533	B4	Q408	F3	R2D5	F8	R365	E7	R446	F3	R501	D4
C250	D8	C325	A4	C534	B4	Q412	E4	R2D7	F7	R366	E7	R447	F4	R503	D3
C255	D7	C3F2	B1	C535	B4	Q413	E4	R2E2	C8	R367	D2	R448	D3	R504	C3
C258	C7	C3F3	B1	C536	B4	Q414	E4	R2E3	C8	R368	B2	R457	D2	R505	C3
C260	C5	C3F4	A4	C538	C3	Q450	F2	R2M1	D7	R369	B4	R458	D2	R508	D3
C270	B7	C403	D3	C539	C3	Q451	F2	R2M2	D7	R370	B4	R460	D2	R509	D3
C271	C7	C405	E3	C540	D3	Q452	F2	R2M3	E7	R3A0	D9	R461	D2	R512	C3
C280	C6	C408	D3	C541	D3	Q453	F2	R2M5	E7	R3A1	D2	R462	D2	R513	C3
C281	C6	C411	E3	C543	C3	Q454	F2	R2M6	E7	R3A2	D2	R463	E2	R521	B3
C286	A6	C412	E3	C544	D2	Q455	F2	R2M7	E7	R3A3	F5	R464	D2	R523	B3
C287	A6	C413	E3	D2A1	B8	Q707	B4	R2N0	E7	R3A4	F5	R465	E2	R526	A7
C2A1	C8	C414	E3	D2A2	B8	R200	B7	R2N1	E7	R3A7	A9	R466	E2	R580	B3
C2A2	C8	C416	E3	D402	E4	R202	B7	R2N2	E7	R3A8	A9	R467	D2	R597	A3
C2A3	C9	C417	E3	IC201	C8	R203	B7	R2N3	E7	R3A9	D9	R468	D2	R5B1	E4
C2A5	C9	C418	E3	IC203	C8	R204	B7	R2N4	E7	R3F3	B1	R469	E2	R5B3	B4
C2A7	B8	C420	E3	IC204	C8	R217	C6	R2N5	E7	R401	D3	R470	E2	R701	E4
C2A9	B8	C424	E3	IC205	A6	R218	C6	R2N6	E7	R402	D3	R472	E2	R702	D6
C2B0	B8	C434	E3	IC2A3	C8	R219	C6	R2N7	E7	R403	D3	R473	E2	R708	D4
C2B1	B8	C437	E3	IC2M1	E8	R220	C6	R2N8	D7	R404	D3	R474	E2	R709	E4
C2B2	B8	C439	E3	IC301	B4	R230	C5	R2N9	D8	R405	D3	R475	F2	R711	E4
C2B6	B8	C450	D2	IC305	A4	R231	C5	R2P1	D8	R406	D3	R477	E2	R712	E4
C2B7	B8	C457	D2	IC307	B4	R232	C5	R2P4	F6	R409	D3	R478	E2	TP206	A3
C2B8	B8	C458	D2	IC307	B4	R233	B6	R2P5	F6	R410	E3	R479	E2	TP207	C6
C2B9	B8	C459	E2	IC401	E3	R234	B6	R2P6	F6	R411	E3	R480	E2	TP208	C5
C2C0	B8	C462	E3	IC402	E3	R235	B6	R2P8	A12	R412	E3	R482	E2	TP212	C6
C2C1	C8	C463	D2	IC404	F4	R236	B6	R2Q1	D7	R413	E3	R483	F2	TP218	B6
C2C3	C8	C464	E3	IC451	D1	R237	B6	R2Q2	E7	R414	E3	R484	E2	TP221	E6
C2C5	C8	C465	D2	IC452	D2	R241	B7	R2Q3	E7	R415	E3	R485	E2	TP231	C6
C2C6	B9	C470	E2	IC453	E2	R242	B7	R2Q6	D8	R416	E3	R486	E1	TP235	A5
C2C7	B9	C471	E2	IC454	E1	R243	B7	R2R1	F7	R417	E3	R487	F2	TP242	C7
C2C8	C8	C474	E2	IC502	A8	R244	B7	R302	E6	R418	E2	R489	F2	TP244	C7
C2D0	B8	C475	E1	IC503	D2	R271	C6	R303	E6	R419	E3	R490	F2	TP2A1	B8
C2D5	F7	C477	D2	L201	C5	R273	C7	R304	E6	R420	E3	R491	E1	TP359	E5
C2D6	F7	C478	F2	L202	B6	R274	C6	R305	E6	R421	E3	R494	E1	TP360	D6
C2M2	E7	C479	D2	L204	D8	R275	C6	R306	E6	R422	E3	R495	E1	TP361	D6
C2M3	E7	C482	D2	L207	D7	R276	C6	R309	E6	R423	E3	R496	E1	TP362	E5
C2M5	E7	C483	E1	L2A1	B9	R277	C6	R313	E6	R424	D2	R497	E1	TP515	A7
C2M7	E8	C484	E2	L2A2	F7	R280	C7	R315	E6	R427	E4	R499	E1	TP516	A7
C2N1	E7	C488	E1	L2A3	A5	R299	C6	R316	E6	R428	E4	RA41	E1		
C2N2	F6	C490	E1	L301	E5	R2A1	F8	R317	E4	R429	E4	RA4A	E1		
C2N4	E8	C493	E2	L3F2	A2	R2A4	B6	R318	D6	R430	D4	RA46	E1		
C2N5	E8	C495	E2	L3F3	A4	R2A5	B8	R319	D6	R431	E3	RA48	E1		
C301	E6	C497	E1					R320	D6	R432	E4	RA49	E1		

C203	J7	C415	H3	L3F1	K1	R2P3	G6	R535	J1	TP319	K2				
C210	I7	C421	I2	L502	I3	R2P7	H6	R536	J1	TP320	K2				
C221	L6	C422	H4	L503	I2	R204	H7	R588	I3	TP321	J1				
C227	C7	C423	H4	P2201	L7	R205	H7	R589	I3	TP322	J1				
C228	J8	C436	I3	P3101	I9	R207	L8	R590	I3	TP323	J1				
C232	K5	C438	I4	P3102	H9	R208	L8	R591	I3	TP324	J1				
C237	J6	C440	G4	P3301	K1	R307	H7	R598	K5	TP325	J1				
C239	J5	C451	I1	P3302	I5	R308	H7	R599	I3	TP326	J1				
C240	H7	C452	I1	P3901	L5	R310	H7	R682	I7	TP327	J1				
C256	J8	C453	I1	P4601	G4	R311	H7	TP201	K5	TP328	K1				
C257	J8	C455	I2	P4602	G2	R312	J2	TP202	J5	TP329	K1				
C272	I8	C456	H2	PMD01	G8	R314	H5	TP203	J5	TP330	K1				
C273	I7	C457	I2	PMD02	H7	R321	H6	TP204	J5	TP331	K1				
C274	I7	C461	I2	PMD03	I7	R324	I4	TP205	J5	TP332	J1				
C275	J8	C467	H2	Q2M1	H6	R325	L4	TP209	J6	TP333	J1				
C276	J8	C468	H2	Q2M2	G6	R326	I6	TP210	J6	TP334	J1				
C278	J5	C469	H2	Q2M3	H2	R327	H6	TP211	J6	TP335	J2				
C279	J5	C473	H2	Q708	I6	R328	I6	TP213	J6	TP336	J2				
C282	J6	C476	G2	Q709	H4	R329	J7	TP214	J6	TP337	K1				
C284	I6	C480	H1	Q710	H4	R330	H7	TP215	J6	TP338	K1				
C285	J7	C481	H1	R205	L8	R331	H7	TP216	J6	TP339	K2				
C288	L6	C485	I1	R206	L8	R332	L4	TP219	H6	TP340	K2				
C289	L6	C486	H1	R207	L6	R361	J1	TP220	J6	TP341	K2				
C290	L6	C487	H1	R221	J7	R362	J1	TP222	K7	TP342	K2				
C2A0	L8	C492	H1	R239	L8	R363	L2	TP223	K8	TP343	K2				
C2A4	J9	C494	G2	R240	L8	R364	H7	TP224	K8	TP344	H5				
C2A6	K9	C496	G2	R2B6	L8	R365	G8	TP225	J6	TP345	L2				
C2A8	K9	C498	H3	R2B7	L8	R366	G8	TP226	J6	TP346	J2				
C2B3	K8	C499	H3	R281	J7	R3F1	K2	TP228	J6	TP349	I5				
C2B4	K8	C504	J2	R292	J8	R3F4	L2	TP229	J7	TP350	I5				
C2B5	K8	C505	J2	R293	I8	R3F5	L1	TP230	J7	TP351	I5				
C2C2	J8	C506	J2	R294	I8	R3F6	J2	TP232	J7	TP352	I5				
C2C4	J8	C507	I3	R295	J8	R407	H2	TP233	J7	TP353	H5				
C2C9	J8	C508	K3	R296	J8	R408	H2	TP234	J7	TP354	I5				
C2D1	K7	C509	K5	R297	J8	R425	H4	TP239	K7	TP355	H6				
C2D2	K9	C510	K5	R2A0	K8	R426	H4	TP241	J6	TP356	H5				
C2D3	K8	C511	K5	R2A2	K9	R451	I1	TP243	J7	TP357	H5				
C2D4	G7	C512	K5	R2A6	K8	R452	I1	TP245	I7	TP358	H5				
C2D7	K6	C513	J5	R2A9	K8	R453	J1	TP2A2	L8	TP363	K1				
C2D8	I8	C514	J5	R2B3	K8	R454	J1	TP2A3	K8	TP3A1	K2				
C2D9	I8	C515	J5	R2B7	J8	R455	J1	TP2A4	J9	TP3A2	L2				
C2E0	J8	C516	J5	R2B8	J8	R456	J1	TP2A5	K8	TP3A3	L2				
C2E1	J8	C517	I4	R2C1	J8	R459	I2	TP2A8	K9	TP3A4	L2				
C2M1	H7	C518	I4	R2C2	K8	R476	H2	TP301	K2	TP3A5	L2				
C2M4	H7	C519	I4	R2C3	K8	R493	H1	TP302	K2	TP3A6	L2				
C2M6	G6	C520	I4	R2C4	K9	R4A2	H1	TP303	J2	TP3A7	L2				
C2M8	G6	C521	I4	R2C5	K8	R4A3	H1	TP304	K2	TP501	I4				
C2M9	H7	IC201	K6	R2C8	K8	R4A5	H1	TP305	K2	TP502	I4				
C2N3	H8	IC206	L6	R2C9	K8	R4E6	H1	TP306	K1	TP503	I4				
C308	K1	IC2A1	K8	R2D3	J8	R506	I4	TP307	K1	TP504	I4				
C315	J2	IC2A2	K8	R2D5	J9	R507	I3	TP308	K1	TP505	L3				
C319	L4	IC301	H6	R2E1	J8	R511	K1	TP309	K2	TP506	L4				
C324	I6	IC302	K2	R2E3	J8	R514	I4	TP310	K1	TP513	J3				
C326	K5	IC303	J2	R2E5	J8	R515	I4	TP311	K2	TP514	J3				
C3F1	K1	IC403	H4	R2E6	J8	R516	I4	TP312	K2	TP517	J2				
C401	H2	IC501	J4	R2E7	J8	R520	I4	TP313	K2	X201	L6				
C402	H3	L203	K5	R2E8	J8	R522	I4	TP314	K2	X501	I3				
C404	H3	L209	L7	R2E9	K8	R524	I2	TP315	K2						
C406	H3	L209	L6	R2M8	H7	R525	K5	TP316	K2						
C407	H3	L211	K6	R2M9	H7	R533	J1	TP317	K2						
C410	H3	L2B1	L5	R2P2	H6	R534	L8	TP318	K2						

2. AV JACK P.C.BOARD



3. SMPS P.C.BOARD



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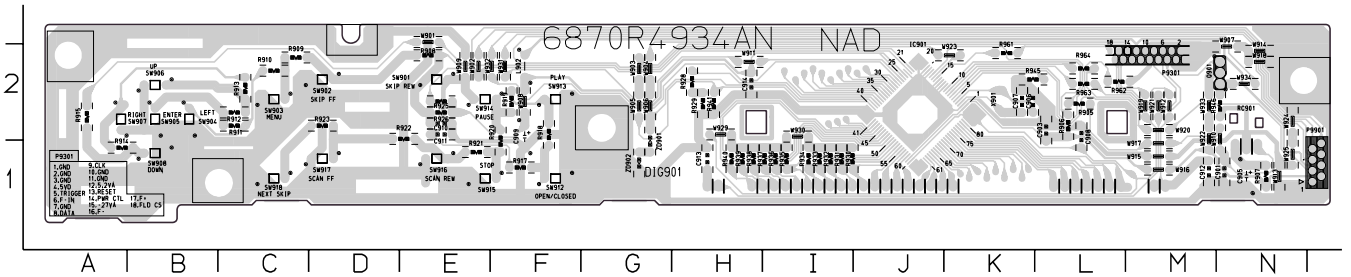

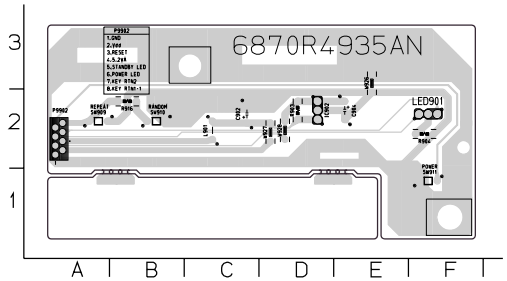

Urgent